THE DATASHEET OF

TC1224-5.0VCTTR

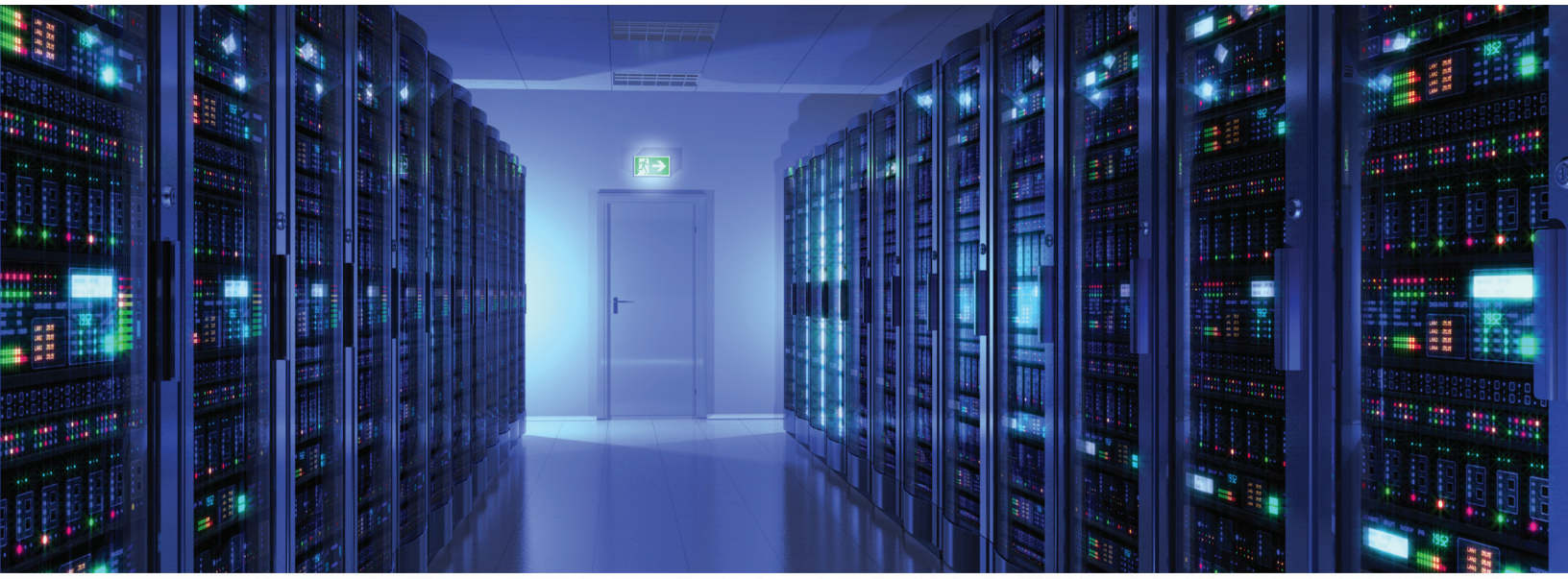
www.win-source.net 0086-755-83957316

Analog and Interface

MICROCHIP

Analog and Interface Product Selector Guide

Thermal Management • Motor Driver • Power Management
Interface and Networking Peripherals • Linear and Mixed Signal
CO and Smoke Detector ICs



www.microchip.com/analog

Table of Contents

Thermal Management

Temperature Sensors . . . 4
- Logic Output Temperature Sensors . . . 4
- Voltage Output Temperature Sensors . . . 4
- Serial Output Temperature Sensors . . . 4
- **Serial Output Temperature Sensors with Remote Diode Monitors . . . 5**

Sensor Conditioning ICs . . . 6

Open-Loop Fan Controllers and Fan Fault Detectors . . . 6

Closed-Loop Fan Controllers with SMBus/I²C Interface . . . 6

Motor Drivers

Stepper Motors, DC Motors and 3-Phase BLDC Motors . . . 7

Position Sensors

Inductive Sensors . . . 8

Power Management

Voltage References . . . 8

Single Output Linear Regulators . . . 8

Multiple Output Linear Regulators . . . 14

Linear Regulators–LDO Controller and SIM Card . . . 15

DDR Termination Regulators . . . 15

High-Voltage Linear Regulators . . . 15

Single Output Switching Regulators (Buck) . . . 16

Single Output Switching Regulators (Boost) . . . 17

Multiple Output Switching Regulators . . . 18

Combination Switching Regulators . . . 19

Inductorless Offline Switching Regulators . . . 19

PWM Controllers . . . 19

Hybrid PWM Controllers . . . 21

Power Modules . . . 21

Charge Pump DC-to-DC Converters . . . 22
- Inverting or Doubling Charge Pumps . . . 22
- Regulated Charge Pumps . . . 22

CPU/System Supervisors . . . 22

Power MOSFET Drivers . . . 25
- Low-Side Power MOSFET Drivers . . . 25
- High-Side Power MOSFET Drivers . . . 27
- Synchronous Power MOSFET Drivers . . . 28

Battery Chargers . . . 28

Hot Swap Controllers . . . 29

Power Switches . . . 30
- USB Port Power Controllers . . . 30
- Current Limit USB Protection Switches . . . 30
- Load Switches . . . 32

Display and LED Drivers

Electroluminescent Backlight Drivers . . . 34
- 16-Segment Drivers . . . 34
- Offline Drivers . . . 34
- Single Lamp Drivers . . . 34
- Dual Lamp Drivers . . . 34

LED Drivers . . . 34
- Automotive . . . 34
- General Purpose . . . 34
- Backlight . . . 35
- Linear . . . 36
- Linear Regulators . . . 36
- Display . . . 36
- Sequential Linear . . . 36
- Camera Flash . . . 36

High-Voltage Interface

Driver Arrays . . . 37
- Sink . . . 37
- Source . . . 37
- Source-Sink . . . 37

Amplifiers and MEMS Drivers . . . 38

MOSFETS - Interface . . . 38
- Depletion-Mode N-Channel . . . 38
- Enhancement Mode N-Channel . . . 38
- Enhancement Mode P-Channel . . . 39
- N-Channel (Enhancement Mode MOSFET Arrays) . . . 40
- Complimentary (Enhancement Mode MOSFET Arrays) . . . 40

Applications Specific . . . 41
- Liquid Lens Driver . . . 41
- Complimentary MOSFET Level Translator and Driver . . . 41
- High-Side Current Monitor . . . 41
- Fault Protection . . . 41
- Relay Driver and Controller . . . 41

Linear

Op Amps . . . 41

Zero-Drift Operational Amplifiers . . . 45

Differential Amplifiers . . . 46

Programmable Gain Amplifiers (PGA) . . . 46

Selectable Gain Amplifiers (SGA) . . . 46

Instrumentation Amplifiers . . . 46

Comparators . . . 47

Current Sense Amplifiers . . . 47

Mixed Signal

Successive Approximation Register (SAR) A/D Converters . . . 47

Delta-Sigma A/D Converters . . . 48

Pipelined A/D Converters . . . 48

Energy Metering and Power Monitoring ICs . . . 49

Energy Measurement AFEs . . . 49

Current/DC Power Measurement ICs . . . 50

Dual-Slope A/D Converters . . . 50

Binary and BCD A/D Converters . . . 50

Display A/D Converters . . . 50

Digital Potentiometers . . . 51

Frequency-to-Voltage/Voltage-to-Frequency Converters . . . 52

D/A Converters . . . 52

Interface and Networking

CAN Products . . . 54

LIN Products . . . 54

Ethernet Products . . . 55
- Ethernet Controllers . . . 55
- **Ethernet Bridges . . . 55**
- Ethernet Transceivers . . . 55
- Ethercat® Controllers . . . 55
- Ethernet Switches . . . 56

Serial Peripherals . . . 56

Wi-Fi® Modules . . . 56

Wi-Fi RF Front-End Products . . . 57

Bluetooth® Modules . . . 58

IEEE 802.15.4 zigbee® RF Transceiver Products . . . 59

Sub-GHz Transceivers/Modules . . . 59

Sub-GHz Transmitters . . . 59

Sub-GHz Receivers . . . 59

MCU Transmitters . . . 59

USB Bridge Devices . . . 60

USB Products . . . 60
- USB Hub Controllers . . . 60
- USB-C™ Power and Charging . . . 60
- USB Transceivers/Switches . . . 60
- USB Flash Media Controllers . . . 60
- USB Security . . . 60

Real-Time Clock/Calendar (RTCC) . . . 61

CO and Smoke Detector ICs

Photoelectric Smoke Detector ICs . . . 62

Ionization Smoke Detector ICs . . . 62

Ionization Smoke Detector Front Ends . . . 62

CO Detectors . . . 62

Piezoelectric Horn Drivers . . . 63

Ultrasound

High-Voltage Analog Multiplexers . . . 63

Ultrasound MOSFET Drivers . . . 64

Ultrasound TR Switches . . . 64

Arbitrary Wafeform Generators . . . 64

Ultrasound Transmitters . . . 64

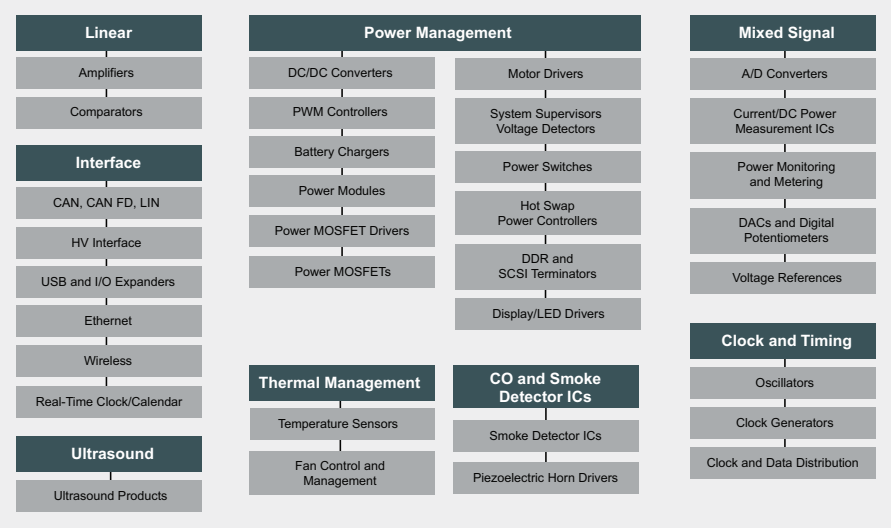
Note: New products to this edition are reflected in bold.

Are You Looking for Complete Analog and Interface Design Solutions?

Microchip's integrated analog technology, peripherals and features are engineered to meet today's demanding design requirements. Our broad spectrum of analog products addresses thermal management, power management, battery management, mixed-signal, linear, interface and safety and security solutions. Combined with Microchip's Intelligent Analog microcontrollers, our extensive analog portfolio can be used in thousands of high-performance design applications in the automotive, communications (wireless), consumer, computing and industrial control markets.

Our broad portfolio of standalone analog and interface devices offers highly integrated solutions that combine various analog functions in space-saving packages and support a variety of bus interfaces. Many of these devices support functionality that enhances the analog features currently available on PIC® MCUs.

Microchip's Standalone Analog and Interface Portfolio



Want a Business Partner, Not Just a Vendor?

Successful companies recognize the value of a strategic supplier relationship to help them deliver innovative products to market quickly. They trust their suppliers to furnish quality components for current design opportunities as well as technology road maps and innovative solutions to stay ahead of tomorrow's design trends. Microchip provides low-risk product development, lower total system cost and faster time to market to more than 80,000 of these successful companies worldwide. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality.

Are Quality and Delivery a Concern?

Microchip's quality systems are certified according to the International Organization for Standards/Technical Specification (ISO/TS)-16949:2002 requirements. This demonstrates that our quality systems meet the most stringent industry quality-management system standards, resulting in high-quality semiconductor products. Direct control over manufacturing resources allows shortened design and production cycles. By owning the wafer fabrication facilities and the majority of the test and assembly operations, and by employing proprietary statistical process control techniques, Microchip has been able to achieve and maintain high production yields.

Need Additional Support and Resources?

Microchip is committed to supporting its customers by helping design engineers develop products faster and more efficiently. You can access three main service areas at www.microchip.com. The Design Support area provides a fast way to get questions answered. The Sample and Buy area offers evaluation samples of any Microchip device. microchipDIRECT provides 24-hour pricing, ordering, inventory and credit for convenient purchasing of all Microchip devices and development tools. This site also features online programming capabilities. Finally, the Training area offers opportunities to expand your knowledge with Microchip's online web seminars and hands-on courses at our worldwide Technical Training Centers. Our seminars and training classes are designed to fit your schedule and offer an overview of many product, development tool and application topics. Visit www.microchip.com/training for class content and schedules.

Have you ever encountered a technical dilemma at a critical point in your design development and your supplier was not available to answer your questions? Microchip's 24/7 global technical support line offers you technical support resources any time help is needed. Because some technical problems require hands-on assistance in order to be resolved quickly, Microchip has also developed a global team of field applications engineers and field sales engineers who provide local assistance.

THERMAL MANAGEMENT

THERMAL MANAGEMENT: Temperature Sensors

Part #	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features	Packages
Logic Output Temperature Sensors							
TC6501	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6501, open-drain	5-pin SOT-23A
TC6502	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6502, push-pull	5-pin SOT-23A
TC6503	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6503, open-drain	5-pin SOT-23A
TC6504	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6504, push-pull	5-pin SOT-23A
TC620	±1	±3	–40 to +125	+4.5 to +18	400	Two resistor-programmable trip points	8-pin PDIP, 8-pin SOIC
TC621	Note 1	Note 1	–40 to +85	+4.5 to +18	400	Requires external thermistor, resistor-programmable trip points	8-pin PDIP, 8-pin SOIC
TC622	±1	±5	–40 to +125	+4.5 to +18	600	Dual output, TO-220 for heat sink mounting, resistor-programmable trip points	8-pin PDIP, 8-pin SOIC, 5-pin TO-220
TC623	±1	±3	–40 to +125	+2.7 to +4.5	250	Two resistor-programmable trip points	8-pin PDIP, 8-pin SOIC
TC624	±1	±5	–40 to +125	+2.7 to +4.5	300	Dual output, resistor-programmable trip points	8-pin PDIP, 8-pin SOIC
MCP9501	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-High, Push-Pull Output, Rising Temperature Switch	5-pin SOT-23
MCP9502	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-Low, Open Drain Output, Rising Temperature Switch	5-pin SOT-23
MCP9503	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-High, Push-Pull Output, Falling Temperature Switch	5-pin SOT-23
MCP9504	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-Low, Open Drain Output, Falling Temperature Switch	5-pin SOT-23
MCP9509	±0.5	NS	–40 to +125	+2.7 to +5.5	50	Resistor-programmable temperature switch	5-pin SOT-23
MCP9510	±0.5	NS	–40 to +125	+2.7 to +5.5	80	Resistor-programmable temperature switch	6-pin SOT-23
Voltage Output Temperature Sensors							
MCP9700	±1	±4	–40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC, Temperature slope: 10 mV/°C	3-pin TO-92, 5-pin SC-70, 3-pin SOT-23
MCP9701	±1	±4	–40 to +125	+3.1 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 19.53 mV/°C, cross to MAX6612	3-pin TO-92, 5-pin SC-70, 3-pin SOT-23
MCP9700A	±1	±2	–40 to +125	+2.3 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 10 mV/°C	3-pin TO-92, 5-pin SC-70, 3-pin SOT-23
MCP9701A	±1	±2	–40 to +125	+3.1 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 19.53 mV/°C, cross to MAX6612	3-pin TO-92, 5-pin SC-70, 3-pin SOT-23
TC1046	±0.5	±2	–40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 6.25 mV/°C	3-pin SOT-23B
TC1047	±0.5	±2	–40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 10 mV/°C	3-pin SOT-23B
TC1047A	±0.5	±2	–40 to +125	+2.5 to +5.5	60	High precision temperature-to-voltage converter, 10 mV/°C	3-pin SOT-23B
Serial Output Temperature Sensors							
MCP9800	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement	5-pin SOT-23
MCP9801	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement, multi-drop capability	8-pin MSOP, 8-pin SOIC
MCP9802	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface with time out, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement	5-pin SOT-23
MCP9803	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface with time out, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement, Multi-drop capability	8-pin MSOP, 8-pin SOIC
MCP9804	±0.25	±1	–40 to +125	+2.7 to +5.5	400	User programmable temperature limits with alert output, 1°C temp. accuracy from –40°C to +125°C	8-pin MSOP, 8-pin 2 × 3 DFN
MCP9805	±0.5	±1(2)	–20 to +125	+3.0 to +3.6	400	JEDEC-compatible register set, SMBus/I²C compatible interface, Programmable, Shut-down modes and EVENT output	8-pin TSSOP, 8-pin 2 × 3 DFN
MCP9808	±0.25	±0.5	–40 to +125	+2.7 to +5.5	400	0.5°C temperature accuracy from –10°C to +100°C	8-pin 2 × 3 DFN, 8-pin MSOP
MCP9843	±0.5	±1(2)	–20 to +125	+3.0 to +3.6	500	Compliant to JEDEC TSE3000B3 specification	8-pin TSSOP, 8-pin 2 × 3 DFN, 8-pin 2 × 3 TDFN
MCP98243	±1	±3	–40 to +125	+3.0 to +3.6	500	Serial output temperature sensor with integrated EEPROM (TSE2002B3)	8-pin TSSOP, 8-pin 2 × 3 DFN, 8-pin 2 × 3 TDFN
MCP98244	±0.5	±3	–40 to +125	+1.7 to +3.6	500	Serial output temperature sensor compliant to TSE2004a	8-pin 2 × 3 TDFN
MCP9844	±0.5	±3	–40 to +125	+1.7 to +3.6	500	Serial output temperature sensor with integrated EEPROM (TSE2004a)	8-pin 2 × 3 TDFN
TC77	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SPI-compatible interface, 0.0625°C temperature resolution	5-pin SOT-23A, 8-pin SOIC
TC72	±0.5	±1	–55 to +125	+2.65 to +5.5	400	SPI-compatible interface, Power-saving one-shot temperature measurement, 0.25°C temperature resolution	8-pin MSOP, 8-pin 3 × 3 DFN
TC74	±0.5	±2	–40 to +125	+2.7 to +5.5	350	SMBus/I²C-compatible interface, 1°C temperature resolution	5-pin SOT-23A, 5-pin TO-220
TCN75A	±0.5	±2	–40 to +125	+2.7 to +5.5	500	SMBus/I²C-compatible interface, power-saving one-shot temperature measurement, multi-drop capability, 0.0625°C to 0.5°C adjustable temperature resolution	8-pin MSOP, 8-pin SOIC
AT30TS74	±1	±2	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 UDFN, 4-ball WLCSP, 5-ball WLCSP
AT30TS75A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 UDFN
AT30TS750A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power-up defaults	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 UDFN
AT30TSE752A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power-up defaults, integrated 2 KB serial EEPROM	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 UDFN

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor.
2: Maximum accuracy measured at 85°C.

THERMAL MANAGEMENT: Temperature Sensors (Continued)

Part #	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features	Packages
Serial Output Temperature Sensors (Continued)							
AT30TSE754A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power-up defaults, integrated 4 KB serial EEPROM	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 UDFN
AT30TSE758A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power-up defaults, integrated 8 KB serial EEPROM	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 UDFN
AT30TSE002B	±1	±3	–40 to +125	+2.7 to +3.6	500	JEDEC (JC42.4) SO-DIMM SPD + TS compliant, SMBus/I²C compatible interface, integrated 2 KB serial EEPROM	8-pin 2 × 3 UDFN
AT30TSE004A	±0.5	±3	–40 to +125	+1.7 to +3.6	500	JEDEC JC42.4 (TSE2004av) DIMM SPD + TS compliant, SMBus/I²C compatible interface, integrated 4 KB serial EEPROM	8-pin 2 × 3 UDFN

THERMAL MANAGEMENT PRODUCTS: Temperature Sensors (Continued)

Part #	# of Remote Temp. Sensors	Typ. Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temp. Range (°C)	Ambient Temp. Sensor	Alert/ THERM	Hardware Shutdown	Vcc Range (V)	Typ.Supply Current (µA)	Description and Additional Features	Packages
Serial Output Temperature Sensors with Remote Diode Monitors											
MIC184	1	±1.0	±2.0	–55 to +125	1	1	–	2.7–5.5	340	Local/Remote Thermal Supervisor	8-pin SOIC, 8-pin MSOP
MIC280	1	±1.0	±2.0	–55 to +125	1	1	–	3.0–3.6	230	Precision IttyBitty® Thermal Supervisor	6-pin SOT
MIC281	1	±1.0	±3.0	–55 to +125	0	1	–	3.0–3.6	230	Low-Cost IttyBitty Thermal Sensor	6-pin SOT
MIC284	1	±1.0	±2.0	–55 to +125	1	2	–	2.7–5.5	350	Two-Zone Thermal Supervisor with CRIT Output	8-pin SOIC, 8-pin MSOP
MIC384	2	±1.0	±2.0	–55 to +125	1	1	–	2.7–5.5	350	Three-Zone Thermal Supervisor	8-pin SOIC, 8-pin MSOP
MCP9902	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Dual Temperature Sensor	8-pin WDFN
MCP9903	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Triple Temperature Sensor	10-pin 3 × 3 VDFN
MCP9904	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Quad Temperature Sensor	10-pin 3 × 3 VDFN
EMC1046	5	±0.25	±1.0	–40 to +125	1	–	–	3.0–3.6	395	Sextuple SMBus/I²C Sensor with REC, Beta Compensation and Hottest of Thermal Zones	10-pin MSOP
EMC1047	6	±0.25	±1.0	–40 to +125	1	–	–	3.0–3.6	395	Septuple SMBus/I²C Sensor with REC, Beta Compensation and Hottest of Thermal Zones	10-pin MSOP
EMC1072	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Dual SMBus/I²C Sensor with Selectable Address	8-pin MSOP
EMC1073	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Triple SMBus/I²C Sensor with Selectable Address	10-pin MSOP
EMC1074	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Quad SMBus/I²C Sensor with Selectable Address	10-pin MSOP
EMC1812	1	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Dual Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp	8-pin WDFN
EMC1813	2	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp	10-pin VDFN
EMC1814	3	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Quad Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp	10-pin VDFN
EMC1815	4	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Five Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp	10-pin VDFN
EMC1833	2	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp	8-pin WDFN
EMC1186	1	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	200	Dual Channel 1.8V SMBus/I²C Sensor with REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown	8-pin TDFN
EMC1187	2	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	200	Triple Channel 1.8V SMBus/I²C Sensor with REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown	10-pin DFN
EMC1188	3	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	200	Quad Channel 1.8V SMBus/I²C Sensor with REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown	10-pin DFN
EMC1412	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Dual SMBus/I²C Sensor with REC, Beta Compensation and Selectable Address	8-pin TDFN, 8-pin MSOP
EMC1413	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Triple SMBus/I²C Sensor with REC, Beta Compensation and Selectable Address	10-pin DFN, 10-pin MSOP
EMC1414	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Quad SMBus/I²C Sensor with REC, Beta Compensation and Selectable Address	10-pin MSOP, 10-pin DFN
EMC1422	1	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Dual SMBus/I²C Sensor with REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown	8-pin MSOP
EMC1423	2	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Triple SMBus/I²C Sensor with REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown	10-pin MSOP
EMC1424	3	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Quad SMBus/I²C Sensor with REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown	10-pin MSOP
EMC1428	7	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	450	Octal SMBus/I²C Sensor REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown and Hottest of Thermal Zones	16-pin QFN
EMC1438	7	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	450	Octal SMBus/I²C Sensor REC, Beta Compensation and Resistor-Settable Hardware Thermal Shutdown and Hottest of Thermal Zones	16-pin QFN
EMC1822	**1**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Dual Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp**	**8 WDFN**
EMC1823	**2**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp**	**10 VDFN**
EMC1824	**3**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Quad Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp**	**10 VDFN**
EMC1825	**4**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Five Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp**	**10 VDFN**
EMC1843	**2**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistance Error Correction, Beta Comp**	**8 WDFN**

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor. **2:** Maximum accuracy measured at 85°C. **3:** TCN75 idle current is 250 mA. This device also has a Software Shutdown mode that reduces supply current to < 1 mA.

THERMAL MANAGEMENT: Sensor Conditioning ICs

Product	Description	Typical Tc Accuracy (°C)	Typical Th Accuracy (°C)	Temperature Range (°C)	Vcc Range (V)	Max Supply Current (µA)	Packages
MCP9600	±1.5°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	1	–40 to +125	2.7 to 5.5	500	5 × 5 MQFN
MCP96L00	±4°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	4	–40 to +125	2.7 to 5.5	500	5 × 5 MQFN
MCP96RL00	±6°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	6	–40 to +125	2.7 to 5.5	500	5× 5 MQFN

THERMAL MANAGEMENT: Open-Loop Fan Controllers and Fan Fault Detectors

Part #	Description	# of Temp. Monitors	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features	Packages
EMC2101	Single SMBus I²C Fan Manager	2	±0.5	±1	–40 to +125	+3.0 to +3.6	1,000	Fan Controller with high-frequency PWM driver, programmable fan speed table and alert	8-pin MSOP, 8-pin SOIC
TC642	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense™ Fan Monitor, Minimum fan speed control	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC642B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Minimum fan speed control, Fan auto-restart	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC646	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Auto-shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC646B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Auto-shutdown, Fan auto-restart	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC647	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Minimum fan speed control	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC647B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Minimum fan speed control, Fan auto-restart	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC648	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	Overtemperature alert, Auto-shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC648B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	Overtemperature alert, Auto-shutdown, Fan auto-restart	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC649	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Auto-shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC649B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Auto-shutdown, Fan auto-restart	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
TC650	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	Overtemperature alert	8-pin MSOP
TC651	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	Overtemperature alert, Auto-shutdown	8-pin MSOP
TC652	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	FanSense Fan Monitor, Overtemperature alert	8-pin MSOP
TC653	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	FanSense Fan Monitor, Overtemperature alert, Auto-shutdown	8-pin MSOP
TC654	Dual SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data	10-pin MSOP
TC655	Dual SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data, Overtemperature alert	10-pin MSOP
TC664	Single SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data	10-pin MSOP
TC665	Single SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data, Overtemperature alert	10-pin MSOP
TC670	Predictive Fan Fault Detector	1	N/A	N/A	–40 to +85	+3.0 to +5.5	150	FanSense Fan Monitor, Programmable threshold	6-pin SOT-23

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor.

THERMAL MANAGEMENT: Closed-Loop Fan Controllers with SMBus/I²C Interface

Part #	# of Fan Drivers	PWM/ Linear Control	# of Remote Temp. Monitors	Ambient Temp. Sensor	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	SMBus Alert	System Shutdown	Voltage Monitors	Description	Packages
EMC2112	1	Linear	3	1	±0.25	±1.0	0 to +85	+3.3 and +5	Yes	Yes	No	RPM-Based Fan Controller with Hardware Thermal Shutdown	20-pin QFN
EMC2103-1	1	PWM	1	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with Hardware Thermal Shutdown	12-pin QFN
EMC2103-2	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with Hardware Thermal Shutdown	16-pin QFN
EMC2103-4	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with Hardware Thermal Shutdown and EEPROM loadable	16-pin QFN
EMC2104	2	PWM	4	1	±0.25	±1.0	–40 to +85	+3.0 to +3.6	Yes	Yes	Yes	Dual RPM-Based PWM Fan Controller with Hardware Thermal Shutdown	20-pin QFN
EMC2105	1	Linear	4	1	±0.25	±1.0	–40 to +85	+3.3 and +5.0	Yes	Yes	Yes	RPM-Based High-Side Fan Controller with Hardware Thermal Shutdown	20-pin QFN
EMC2106	2	PWM & Linear	4	1	±0.25	±1.0	–40 to +85	+3.3 and +5.0	Yes	Yes	Yes	RPM-Based High Side Fan Controller with Hardware Thermal Shutdown	28-pin QFN
EMC2113	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	Single RPM-Based Fan Controller with Multiple Temperature Zones and Hardware Thermal Shutdown	16-pin QFN
EMC2301	1	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Single RPM-Based PWM Fan Speed Controller	8-pin MSOP
EMC2302	2	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Dual RPM-Based PWM Fan Speed Controller	10-pin MSOP
EMC2303	3	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Triple RPM-Based PWM Fan Speed Controller	12-pin QFN
EMC2305	5	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Penta RPM-Based PWM Fan Speed Controller	16-pin QFN

MOTOR DRIVERS

MOTOR DRIVERS: Stepper Motors, DC Motors and 3-Phase BLDC Motors

Part #	Motor Type	Input Voltage Range (V)	Internal/ External FETs	Output Current (mA)	Control Scheme	Motor Speed Output	Protections	Temperature Operating Range (°C)	Features	Packages
ATA6826C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	3 half bridge outputs, No shoot-through, Very low quiescent current <2 µA	SO14
ATA6831C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	3 half bridge outputs, No shoot-through, Very low quiescent current <2 µA, PWM input	18-pin 4 × 4 QFN
ATA6832C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +150	3 half bridge outputs, No shoot-through, Very low quiescent current <2 µA, PWM input	18-pin 4 × 4 QFN
ATA6836C	DC Motor	7 to 40	Internal	650	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	6 half bridge outputs, No shoot-through, Very low quiescent current <2 µA	SO28
ATA6838C	DC Motor	7 to 40	Internal	950	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	6 half bridge outputs, No shoot-through, Very low quiescent current <2 µA	24-pin 5 × 5 QFN
ATA6823C	DC Motor	7 to 20	External	100	PWM, DIR	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +125	Dead time adjust, Charge pump supply for external battery reverse protection NMOS, LDO 3V3/5V, Window Watchdog, LIN TRX, Sleep mode <45µA	32-pin 7 × 7 QFN
ATA6824C	DC Motor	7 to 20	External	100	PWM, DIR	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +150	Dead time adjust, Charge pump supply for external battery reverse protection NMOS, LDO 3V3/5V, Window Watchdog, HV interface	32-pin 7 × 7 TQFP
ATA6843	3-Phase Brushless Motor	5.5 to 32	External	100	Direct PWM	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +125	Charge pump supply for external battery reverse protection NMOS, Dead time adjust, LDO 3V3/5V, Window Watchdog, LIN TRX, Sleep mode <45µA	48-pin 7 × 7 QFN
ATA6844	3-Phase Brushless Motor	5.5 to 32	External	100	Direct PWM	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +150	Charge pump supply for external battery reverse protection NMOS, Dead time adjust, LDO 3V3/5V, Window Watchdog, LIN TRX, Sleep mode <45 µA	48-pin 7 × 7 QFN
MCP8063	3-Phase Brushless Motor	2.0 to 14.0	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–40 to +125	3-Phase BLDC 180° Sinusoidal Sensorless Fan Motor Driver, Overcurrent Limitation, Output Switching Frequency at 23 kHz	Thermally Enhanced 8-pin 4 × 4 DFN
MTS62C19A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overtemperature, Under Voltage	–40 to +105	Dual Full-Bridge Motor Driver for Stepper Motors, Pin compatible with Allegro 6219	24-pin SOIC
MTS2916A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overtemperature, Under Voltage	–40 to +105	Dual Full-Bridge Motor Driver for Stepper Motors, Pin compatible with Allegro 2916	24-pin SOIC
MTD6501C	3-Phase Brushless Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoidal Sensorless Fan Motor Driver, Overcurrent limitation, Output Switching Frequency at 20 kHz	Thermally Enhanced 8-pin SOP
MTD6501D	3-Phase Brushless Motor	2.0 to 14.0	Internal	500	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoidal Sensorless Fan Motor Driver, Boost Mode, Overcurrent limitation, Output Switching Frequency at 20 kHz	10-pin MSOP
MTD6501G	3-Phase Brushless Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoidal Sensorless Fan Motor Driver, Overcurrent limitation, Output Switching Frequency at 23 kHz	Thermally Enhanced 8-pin SOP
MTD6502B	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–40 to +125	3-Phase BLDC Sinusoidal Sensorless Fan Motor Driver, Direction control, Overcurrent limitation, Output Switching Frequency at 30 kHz	10-pin 3 × 3 TDFN
MTD6508	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Overtemperature, Motor Lock-up	–40 to +125	180° Sinusoidal Sensorless Drive, Direction Control, Programmable BEMF Coefficient Range, Output Switching Frequency at 30 kHz, Programmable Start-up RPM and Slew Rate, Selectable Start-up Strength and Phase Target Regulation	10-pin 3 × 3 UDFN, 16-pin 4 × 4 UQFN
MTD6505	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Overtemperature, Motor Lock-up	–40 to +125	180° Sinusoidal Sensorless Drive, Direction Control, Programmable BEMF Coefficient Range, Output Switching Frequency at 30 kHz	10-pin 3 × 3 UDFN

POSITION SENSORS

POSITION SENSORS: Inductive Sensors

Part #	Calibration Segments	Sensor Offset Adjust	Origin Adjust (bits)	Output Interface	Output Resolution (bits)	Redundant IC support	# of ADCs	ADC Sampling Rate (samples/sec)	ADC for external sensor (bits)	MCU	Temperature Range (°C)	Features	Packages
LX3301A	6	Yes	12	Analog, PWM	12	Yes	2	2000	N/A	32-bit, 8 MHz	-40 to +125	AEC-Q100 Grade 1, ISO26262 Support, integrated input EMI filters	14-pin TSSOP
LX3302A	8	Yes	12	Analog, PWM, SENT, PSI5, Sin/Cos	12	Yes	3	2000	10	32-bit, 8 MHz	-40 to +150	AEC-Q100 Grade 0, ISO26262 Support, integrated temperature sensor, external sensor interface	14-pin TSSOP

POWER MANAGEMENT

POWER MANAGEMENT: Voltage References

Part #	V_{IN} Max (V)	Output Voltage (V)	Max. Load Current (mA)	Initial Accuracy (max.%)	Temperature Coefficient (ppm/°C)	Maximum Supply Current (µA @ 25°C)	Packages
MCP1501	5.5	1.024, 1.250, 1.8, 2.048, 2.5, 3.0, 3.3, 4.096	20	±0.08	50	350	8-pin 2 × 2 WDFN, 6-pin SOT-23, 8-pin SOIC
MCP1525	5.5	2.5	±2	±1	50	100	3-pin TO-92, 3-pin SOT-23B
MCP1541	5.5	4.096	±2	±1	50	100	3-pin TO-92, 3-pin SOT-23B
LM4040C	15	2.5, 4.096, 5.0	15	±0.5	100	65–85	3-pin SOT-23
LM4040D	15	2.5, 4.096, 5.0	15	±1	150	65–85	3-pin SOT-23
LM4041C	15	1.225, Adj. (1.24–10V)	12	±0.5	100	70	3-pin SOT-23
LM4041D	15	1.225, Adj. (1.24–10V)	12	±1	150	70	3-pin SOT-23
MIC40403	10	Adjustable	15	±1	–	70	8-pin SOT-143

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features	Packages
MCP1811	150	1.8	5.5	1.2, 1.8, 2.8, 3.0, 3.3	400	250 nA	±2	50	Ultra-Low Iq	1 x 1 DFN, SOT23-3, SOT23-5, SC70-3, SC70-5
MCP1812	300	1.8	5.5	1.2, 1.8, 2.8, 3.0, 3.3	400	250 nA	±2	50	Ultra-Low Iq	1 x 1 DFN, SOT23-3, SOT23-5, SC70-3, SC70-5
MIC5231	10	3.5	12	2.75, 3.0, 3.3, 5.0	150	650 nA	±2	50	High Input Voltage, Small Package	5-pin SOT-23
MIC5232	10	2.7	7	1.2, 2.5, 2.8, 3.3	100	1.8 uA	±2	55	7V input	5-pin TSOT, 6-pin VDFN
MAQ5280	25	4.5	120	Adj.	1100	31 µA	±2	80	Ultra-High Input Voltage, Load Dump	8-pin SOIC
MIC5280	25	4.5	120	Adj.	1100	31 µA	±2	80	High Input Voltage, Load Dump, Reverse Battery Protection	8-pin SOIC
MIC5281	25	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump	8-pin MSOP
MAQ5281	25	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump	8-pin MSOP
MAQ5282	50	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, High PSRR	8-pin MSOP
MIC5282	50	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump	8-pin MSOP
TC1014	50	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout	5-pin SOT-23
TC1054	50	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout	5-pin SOT-23
TC1070	50	2.7	6	1.23–5.5	85	50 µA	±0.5	64	Ultra Low Dropout	5-pin SOT-23
TC1072	50	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout	6-pin SOT-23
TC1223	50	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout	5-pin SOT-23
TC2014	50	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	45	50 µA	±0.4	55	Ultra Low Dropout	5-pin SOT-23
TC2054	50	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	45	55 µA	±0.4	50	Ultra Low Dropout	5-pin SOT-23
MCP1790	70	6	30	3.0, 3.3, 5.0	700	70 µA	±0.2	90	High Input	3-pin SOT-223, 3-pin DDPAK
MCP1791	70	6	30	3.0, 3.3, 5.0	700	70 µA	±0.2	90	High Input	5-pin DDPAK, 5-pin SOT-223
MIC5203	80	2.5	16	2.6, 2.8, 3.0, 3.3, 3.6, 3.8, 4.0, 4.5, 5.0	300	180 µA	±3	60	High Input Voltage, Small Package	4-pin SOT-143, 5-pin SOT-23
MIC5213	80	2.5	16	2.5, 2.6, 2.7, 2.8, 3.0, 3.3, 3.6, 5.0	280	180 µA	±3	60	High Input Voltage, Small Package	5-pin SC70
TC1016	80	2.7	6	1.8, 2.7, 2.8, 3.0	150	53 µA	±0.5	58	Low Dropout	5-pin SC-70, 5-pin SOT-23
LP2951	100	2	30	4.8, 5.0, Adj.	380	100 µA	±0.5	70	High Input Voltage, High PSRR	8-pin SOIC, 8-pin PDIP
MIC5200	100	2.5	26	3.0, 3.3, 4.8, 5.0	230	130 µA	±1	70	Low Dropout	8-pin MSOP, 3-pin SOT-223, 8-pin SOIC
MIC5233	100	2.3	36	1.8, 2.5, 3.0, 3.3, 5.0, Adj.	270	18 µA	±1	50	High Input Voltage, Reverse Battery and Current Protection	3-pin SOT-223, 5-pin SOT-23

POWER MANAGEMENT: Single Output Linear Regulators (Continued)

Part #	Output Current (mA)	VIN Min (V)	VIN Max (V)	VOUT (V)	Voltage Drop Typical (mV)	IGND Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features	Packages
MIC5253	100	2.7	5.5	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3	165	75 µA	±0.5	70	Low Dropout	5-pin SC70
MIC5270	100	–2	–16	(–)3.0, (–)4.1, (–)5.0, Adj.	500	35 µA	±2	50	Negative LDO	5-pin SOT-23
MIC5271	100	–3.3	–16	(–)3.0, (–)4.1, (–)5.0, Adj.	500	25 µA	±2	50	Negative LDO	5-pin SOT-23
TC1015	100	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Droput	5-pin SOT-23
TC1055	100	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Droput	5-pin SOT-23
TC1071	100	2.7	6	1.23–5.5	180	50 µA	±0.5	64	Low Droput	5-pin SOT-23
TC1073	100	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Droput	6-pin SOT-23
TC1224	100	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Droput	5-pin SOT-23
TC2015	100	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	90	55 µA	±0.4	55	Low Droput	5-pin SOT-23
TC2055	100	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	90	55 µA	±0.4	50	Low Droput	5-pin SOT-23
TC59	100	–	–10	–8	380	3 µA	±0.5	50	Negative LDO	3-pin SOT-23A
TC1188	120	2.7	6	1.8, 2.8, 2.84, 3.15	130	50 µA	±0.5	80	High PSRR	5-pin SOT-23
TC1189	120	2.7	6	1.8, 2.8, 2.84, 3.15	130	50 µA	±0.5	80	High PSRR	5-pin SOT-23
MCP1810	150	2.5	5.5	1.2, 1.8, 2.5, 3.0, 3.3, 4.2	380	0.02 µA	±1	25	Ultra Low Io	5-pin SOT-23, 2 × 2 VDFN
MAQ5283	150	6	120	3.3, 5.0, Adj.	1800	8 µA	±3	75	High Input Voltage, High PSRR	8-pin SOIC
MIC2951	150	2	30	3.3, 5.0	320	120 µA	±1	67	Load Dump, Reverse Battery Protection	8-pin MSOP, 8-pin SOIC, 8-pin PDIP
MIC5205	150	2.5	16	2.5, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	165	80 µA	±1	75	High Input Voltage, Small Package	5-pin SOT-23
MIC5206	150	2.5	16	2.5, 2.7, 3.0, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	165	1.3mA	±1	75	High Input Voltage, Small Package	8-pin MSOP, 5-pin SOT-23
MIC5225	150	2.3	16	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	310	29 µA	±0.5	35	High Input Voltage, Small Package, Reverse Current Protection	5-pin SOT-23
MIC5234	150	2.3	30	Adj.	320	20 µA	±1	–	High Input Voltage, Load Dump, Reverse Battery and Current Protection	8-pin SOIC
MIC5235	150	2.3	24	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	310	18 µA	±1	35	High Input Voltage, Reverse Battery and Current Protection	5-pin SOT-23
MIC5236	150	2.3	30	2.5, 3.0, 3.3, 5.0, Adj.	300	20 µA	±1	55	High Input Voltage, Load Dump, Reverse Battery and Current Protection	8-pin MSOP, 8-pin SOIC
MIC5238	150	1.5	6	1.0, 1.1, 1.3	310	23 µA	±5	50	Low Dropout	5-pin TSOT, 5-pin SOT-23
MIC5247	150	2.7	6	1.5, 1.6, 1.8, 1.85, 2.0, 2.1, 2.2, 2.4	150	85 µA	±1	60	Low Dropout	5-pin TSOT, 6-pin VDFN, 5-pin SOT-23
MIC5248	150	2.7	6	1.2	–	100 µA	±3	60	Low Dropout	6-pin VDFN, 5-pin SOT-23
MIC5252	150	2.7	6	1.8, 2.5, 2.8, 2.85, 3.0, 4.75	135	90 µA	±1	60	Low Dropout	6-pin VDFN, 5-pin SOT-23
MIC5255	150	2.7	6	2.5, 2.6, 2.7, 2.75, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.5	135	90 µA	±1	60	Low Dropout	5-pin TSOT, 6-pin VDFN, 5-pin SOT-23
MIC5256	150	2.7	6	1.5, 1.8, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3	135	90 µA	±1	60	Low Dropout	5-pin TSOT, 5-pin SOT-23
MIC5258	150	2.7	6	1.2	–	85 µA	±3	–	Low Dropout	5-pin SOT-23
MIC5265	150	2.7	5.5	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3	210	75 µA	±2	64	Low Dropout	5-pin TSOT, 6-pin UDFN
MIC5268	150	2.7	6	1.2	–	110 µA	±3	–	Low Dropout	5-pin SOT-23
MIC5283	150	6	120	3.3, 5.0, Adj.	1800	8 µA	±3	75	High Input Voltage, Load Dump	8-pin SOIC, 8-pin VDFN
MIC5295	150	2.3	24	3.0, 3.3, 5.0, Adj.	310	18 µA	±1	50	Reverse Battery and Current Protection	5-pin TO-252
MIC5301	150	2.3	5.5	1.3, 1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6, Adj.	40	85 µA	±2	75	Ultra Low Dropout	5-pin TSOT, 6-pin UDFN, 6-pin WDFN
MIC5302	150	2.3	5.5	1.3, 1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6	50	85 µA	±2	65	Ultra Low Dropout	4-pin UDFN
MIC5304	150	2.3	5.5	3.15/1.85, 3.15/1.875, 3.2/1.8	85	24 µA	±0.5	65	Ultra Low Dropout	6-pin UDFN
MIC5305	150	2.25	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6, 4.75, Adj.	60	90 µA	±1	85	Ultra Low Dropout	5-pin TSOT, 6-pin UDFN, 6-pin VDFN
MIC5306	150	2.25	5.5	1.8, 2.5, 2.6	45	16 µA	±1	62	Ultra Low Dropout	5-pin TSOT
MIC5308	150	1.6	5.5	1.2, 1.5, 1.8, Adj.	45	23 µA	±2	90	Ultra Low Dropout, Ultra High PSRR	6-pin TSOT, 6-pin UDFN

POWER MANAGEMENT: Single Output Linear Regulators (Continued)

Part #	Output Current (mA)	VIN Min (V)	VIN Max (V)	VOUT (V)	Voltage Drop Typical (mV)	IGND Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features	Packages
MIC5317	150	2.5	6	1.0, 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3	155	32 µA	±2	80	High PSRR	5-pin TSOT, 4-pin UDFN, 5-pin SOT-23
MIC5365	150	2.5	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3	155	32 µA	±2	80	High PSRR	5-pin SC70, 5-pin TSOT, 4-pin UDFN
MIC5366	150	2.5	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3	155	32 µA	±2	80	High PSRR	5-pin SC70, 4-pin UDFN
MIC5376	150	2.5	5.5	2.8	120	29 µA	±2	60	Low Dropout	5-pin SC70, 4-pin UDFN
MIC5377	150	2.5	5.5	Adj.	120	29 µA	±2	60	Low Dropout	5-pin SC70, 8-pin UQFN
MIC5378	150	2.5	5.5	Adj.	120	29 µA	±2	60	Low Dropout	5-pin SC70, 8-pin UQFN
MCP1711	150	1.4	6	1.1–5.0	670	0.6 µA	±1	–	Ultra Low Iq, Capless	4-pin UQFN, 5-pin SOT-23
MCP1754	150	3.6	16	1.8–5.0	300	56 µA	±0.4	72	High Performance	8-pin DFN, 5-pin SOT-223, 5-pin SOT-23
MCP1754S	150	3.6	16	1.8–5.0	300	56 µA	±0.2	72	High Performance	3-pin SOT-89, 3-pin SOT-23A, 3-pin SOT-223, 8-pin DFN
MCP1804	150	2	28	1.8–18	300	50 µA	±2	50	High Input	3-pin SOT-89, 5-pin SOT-89, 3-pin SOT-223, 5-pin SOT-23
TC1017	150	2.7	6	1.8, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.0	285	53 µA	±0.5	58	Low Dropout	5-pin SC-70, 5-pin SOT-23
TC1185	150	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	270	50 µA	±0.5	64	Low Dropout	5-pin SOT-23
TC1186	150	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	270	50 µA	±0.5	64	Low Dropout	5-pin SOT-23
TC1187	150	2.7	6	1.23–5.5	270	50 µA	±0.5	64	Low Dropout	5-pin SOT-23
TC2185	150	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	140	55 µA	±0.4	55	High Accuracy	5-pin SOT-23
TC2186	150	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	140	55 µA	±0.4	50	High Accuracy	5-pin SOT-23
MIC5207	180	2.5	16	1.8, 2.5, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 4.0, 5.0, Adj.	165	80 µA	±3	75	High Input Voltage, Small Package	5-pin TSOT, 5-pin SOT-23
MIC5201	200	2.5	26	3.0, 3.3, 4.8, 5.0, Adj.	270	130 µA	±2	75	Low Dropout	8-pin MSOP, 3-pin SOT-223, 8-pin SOIC
MIC5367	200	2.5	5.5	1.2, 1.5, 3.3	180	29 µA	±2	65	Low Dropout	6-pin UDFN
MIC5368	200	2.5	5.5	1.2, 1.5, 3.3	180	29 µA	±1	65	Low Dropout	6-pin UDFN
MIC94300	200	1.8	3.6	Input Follower	170	138 µA	–	0	RippleBlocker	4-pin UDFN
MIC94310	200	1.8	3.6	1.2, 1.5, 1.8, 1.85, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3	40	170 µA	±1	85	RippleBlocker	4-pin UDFN, 5-pin SOT-23
MIC2954	250	2	30	5.0, Adj.	375	140 µA	±1	–	Load Dump	3-pin SOT-223, 3-pin TO-220, 8-pin SOIC
MCP1700	250	2.3	6	1.8, 2.5, 3.0, 3.3, 5.0	300	1.6 µA	±0.4	44	Low Iq	3-pin TO-92, 3-pin SOT-89, 3-pin SOT-23, 6-pin DFN
MCP1702	250	2.7	13.2	1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 4.0, 5.0	625	2 µA	±0.4	44	Low Iq	3-pin TO-92, 3-pin SOT-89, 3-pin SOT-23A
MCP1703A	250	2.7	16	1.2–5.5	625	2 µA	±0.4	35	High Input, Low Iq	3-pin SOT-89, 3-pin SOT-23A, 3-pin SOT-223, 8-pin DFN
MAQ5300	300	2.3	5.5	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	100	85 µA	±2	65	Low Dropout	6-pin VDFN
MIC5249	300	2.7	6	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	340	85 µA	±1	65	High PSRR	8-pin MSOP
MIC5259	300	2.7	6	1.5, 1.8, 2.1, 2.5, 2.8, 2.85, 3.0, 3.3	300	105 µA	±0.5	70	Low Dropout	5-pin TSOT, 6-pin VDFN
MIC5303	300	2.3	5.5	1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3	100	85 µA	±2	65	Ultra Low Dropout	4-pin UDFN
MIC5307	300	2.4	5.5	1.5, 1.8, 2.8, 3.0	120	20 µA	±1	62	Low Dropout	5-pin TSOT
MIC5309	300	1.7	5.5	1.2, 1.5, 1.8, Adj.	100	23 µA	±2	90	Ultra High PSRR	6-pin TSOT, 6-pin UDFN
MIC5318	300	2.3	6	1.5, 1.8, 2.5, 2.8, 3.3, Adj.	110	85 µA	±2	75	High PSRR	5-pin TSOT, 6-pin UDFN
MIC5323	300	2.65	5.5	1.8, 2.8, 3.3, Adj.	120	90 µA	±2	80	High PSRR	5-pin TSOT, 6-pin UDFN
MIC5327	300	2.3	5.5	1.8, 2.8	180	24 µA	±0.5	60	High PSRR	4-pin UDFN
MIC5337	300	2.3	5.5	1.8, 2.8	180	24 µA	±0.5	65	High PSRR	4-pin UDFN
MIC5353	300	2.6	6	1.8, 2.5, 2.6, 2.8, 3.0, 3.3, Adj.	160	90 µA	±2	60	Low Dropout	6-pin UDFN
MIC5363	300	2.5	5.5	1.2, 2.1, 2.8, 3.3	225	38 µA	±2	80	High PSRR	6-pin UDFN
MIC5364	300	2.5	5.5	1.2, 2.1, 2.8, 3.3	225	38 µA	±2	80	High PSRR	6-pin UDFN
MIC5501	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	60	Low Dropout	4-pin UDFN, 5-pin SOT-23

POWER MANAGEMENT: Single Output Linear Regulators (Continued)

Part #	Output Current (mA)	VIN Min (V)	VIN Max (V)	VOUT (V)	Voltage Drop Typical (mV)	IGND Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features	Packages
MIC5502	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	60	Low Dropout	4-pin UDFN
MIC5503	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	60	Low Dropout	4-pin UDFN
MIC5504	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.1, 3.3	160	38 µA	±2	60	Low Dropout	4-pin UDFN, 5-pin SOT-23
MIC5512	300	2.5	5.5	1.2, 1.8, 2.8, 3.3	160	38 µA	±2	65	Low Dropout	6-pin UDFN
MIC5514	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	65	Low Dropout	6-pin UDFN
MCP1755	300	3.6	16	1.8–5.5	300	68 µA	±0.85	80	High Input, Low Dropout	3-pin SOT-223, 8-pin DFN, 5-pin SOT-223, 5-pin SOT-23
MCP1755S	300	3.6	16	1.8–5.5	300	68 µA	±0.85	80	Low Dropout	3-pin SOT-223, 8-pin DFN
MCP1824	300	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	200	120 µA	±0.4	55	High Accuracy	5-pin SOT-223 ,5-pin SOT-23
MCP1824S	300	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	200	120 µA	±0.4	55	High Accuracy	3-pin SOT-223,
TC1107	300	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 5.0	240	50 µA	±0.5	60	Low Dropout	8-pin MSOP, 8-pin SOIC 150mil
TC1108	300	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 5.0	240	50 µA	±0.5	60	Low Dropout	3-pin SOT-223
TC1173	300	2.7	6	3.3, 5.0, 2.5, 2.7, 2.8, 3.0	240	50 µA	±0.5	60	Low Dropout	8-pin MSOP, 8-pin SOIC 150mil
TC1174	300	2.7	6	1.23–5.5	270	50 µA	±0.5	60	Low Dropout	8-pin MSOP, 8-pin SOIC 150mil
TC1269	300	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	240	50 µA	±0.5	50	Low Dropout	8-pin MSOP
TC1300	300	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3	210	80 µA	±0.5	60	Low Dropout	8-pin MSOP
MIC29201	400	2	26	3.3, 4.8, 5.0, 12	400	140 µA	±1	70	Load Dump, Reverse Battery Protection	5-pin TO-220, 5-pin DDPAK, 8-pin SOIC
MIC29202	400	2	26	Adj.	400	140 µA	±1	70	Load Dump, Reverse Battery Protection	5-pin TO-220, 5-pin DDPAK
MIC29204	400	2	26	5.0, Adj.	400	140 µA	±1	70	Load Dump, Reverse Battery Protection	8-pin SOIC, 8-pin PDIP
MIC2920A	400	2	26	3.3, 4.8, 5.0, 12	400	140 µA	±1	70	Load Dump, Reverse Battery Protection	3-pin SOT-223, 3-pin TO-220
MIC5325	400	1.7	5.5	1.2, 1.5, 1.8, 3.3, 3.6	110	35 µA	±2	65	Low Noise	6-pin UDFN
MIC47050	500	1	3.6	1.2, 1.8, Adj.	44	6 µA	±0.5	50	Ultra Low Dropout	6-pin UDFN, 6-pin VDFN
MIC47053	500	1	3.6	Adj.	44	6 µA	±2	55	Ultra Low Dropout	8-pin UDFN
MIC5209	500	2.5	16	1.8, 2.5, 3.0, 3.3, 3.6, 4.2, 5.0, Adj.	350	8 mA	±1	75	High Input Voltage, Small Package	8-pin SOIC, 3-pin SOT-223, 8-pin VDFN, 5-pin DDPAK
MIC5216	500	2.5	12	2.5, 3.3, 3.6, 5.0	300	8 mA	±1	75	High Input Voltage, Small Package	8-pin MSOP, 5-pin SOT-23
MIC5219	500	2.5	12	2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3, 3.6, 5.0, Adj.	350	12 mA	±1	75	High Input Voltage, Small Package	8-pin MSOP, 6-pin UDFN, 6-pin VDFN, 5-pin SOT-23
MIC5237	500	2.5	16	2.5, 3.3, 5.0	300	8 mA	±3	75	High Input Voltage, Reverse Battery Protection	3-pin TO-263, 3-pin TO-220
MIC5239	500	2.3	30	1.5, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	350	23 µA	±1	50	Reverse Battery and Current Protection	8-pin MSOP, 8-pin SOIC, 3-pin SOT-223
MIC5319	500	2.5	5.5	1.375, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 5.0, Adj.	200	90 µA	±1	70	High PSRR	5-pin TSOT, 6-pin VDFN
MIC5524	500	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	260	38 µA	±2	65	Low Noise	4-pin UDFN
MIC5528	500	2.5	5.5	3.3	260	38 µA	±2	70	Low Dropout	6-pin UDFN, 6-pin X2DFN
MIC94305	500	1.8	3.6	Input Follower	170	150 µA	–	0	RippleBlocker	6-pin UDFN
MIC94325	500	1.8	3.6	Adj.	100	170 µA	±1	85	RippleBlocker	6-pin UDFN
MIC94345	500	1.8	3.6	1.2, 1.5, 1.8, 2.8, 3.3	100	170 µA	±1	85	RippleBlocker	6-pin UDFN
MIC94355	500	1.8	3.6	1.2, 1.5, 1.8, 2.8, 3.3	100	170 µA	±1	85	RippleBlocker	6-pin UDFN
MCP1725	500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	210	120 µA	±0.5	60	Low Dropout	8-pin DFN, 8-pin SOIC 150mil
MCP1825	500	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	210	120 µA	±0.5	60	Low Dropout	5-pin TO-220, 5-pin DDPAK, 5-pin SOT-223
MCP1825S	500	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	300	120 µA	±0.5	60	Low Dropout	3-pin TO-220, 3-pin SOT-223, 3-pin DDPAK
TC1262	500	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	350	80 µA	±0.5	64	Low Dropout	3-pin TO-220, 3-pin SOT-223, 3-pin DDPAK
TC1263	500	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	350	80 µA	±0.5	64	Low Dropout	5-pin TO-220, 5-pin DDPAK, 8-pin SOIC 150mil
MIC29371	750	4.3	26	3.3, 5.0, 12	370	160 µA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29372	750	4.3	26	Adj.	370	160 µA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK

POWER MANAGEMENT: Single Output Linear Regulators (Continued)

Part #	Output Current (mA)	VIN Min (V)	VIN Max (V)	VOUT (V)	Voltage Drop Typical (mV)	IGND Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features	Packages
MIC2937A	750	4.3	26	3.3, 5.0, 12	370	160 µA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-263, 3-pin TO-220
MIC3775	750	2.25	6	1.5, 1.65, 1.8, 2.5, 3.0, 3.3, Adj.	280	6.5 mA	±1	60	Reverse Current Protection	8-pin MSOP
MIC3975	750	2.25	16	1.65, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	300	7.5 mA	±1	55	Reverse Current Protection	8-pin MSOP
TC1264	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 µA	±0.5	64	Low Dropout	3-pin TO-220, 3-pin SOT-223 3-pin DDPAK
TC1265	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 µA	±0.5	64	Low Dropout	5-pin TO-220, 5-pin DDPAK, 8-pin SOIC 150mil
TC2117	800	2.7	6	1.8, 2.5, 3.0, 3.3	600	80 µA	±0.5	55	Low Dropout	3-pin SOT-223, 3-pin DDPAK
MIC37100	1000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	280	400 µA	±1	50	Reverse Battery and Current Protection	3-pin SOT-223
MIC37101	1000	2.25	6	1.5, 1.65, 1.8, 2.1, 2.5, 3.3	280	400 µA	±1	50	Reverse Battery and Current Protection	8-pin SOIC
MIC37102	1000	2.25	6	Adj	280	400 µA	±1	50	Reverse Battery and Current Protection	8-pin SOIC, 5-pin SPAK
MIC39100	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Protection	3-pin SOT-223
MIC39101	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Protection	8-pin SOIC
MIC39102	1000	2.25	16	Adj.	410	6.5 mA	±1	55	Reverse Battery and Current Protection	8-pin SOIC
MIC47100	1000	1	3.6	0.8, 1.0, 1.2, Adj.	80	350 µA	±0.5	80	Ultra Low Dropout	8-pin MSOP, 8-pin VDFN
MIC69101	1000	1.65	5.5	1.8	215	11 mA	±2	55	Low Dropout	10-pin VDFN
MIC69103	1000	1.65	5.5	Adj.	215	11 mA	±2	55	Low Dropout	10-pin VDFN
MCP1726	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.3, 5.0	500	130 µA	±0.5	54	Low Dropout	8-pin DFN, 8-pin SOIC 150mil
MCP1826	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 µA	±0.5	60	Low Dropout	5-pin TO-220, 5-pin DDPAK, 5-pin SOT-223
MCP1826S	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 µA	±0.5	60	Low Dropout	3-pin TO-220, 3-pin SOT-223, 3-pin DDPAK
MIC2940A	1250	2	26	3.3, 5.0, 12	400	35 mA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-263, 3-pin TO-220
MIC2941A	1250	2	26	Adj.	400	35 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29150	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-263, 3-pin TO-220
MIC29151	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29152	1500	2.25	26	Adj.	350	22 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-252, 5-pin TO-220, 5-pin DDPAK
MIC37139	1500	2.25	6	1.8, 2.5	500	17 mA	±1	50	Reverse Battery and Current Protection	Please call for package information
MIC37150	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Protection	3-pin SPAK
MIC37151	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Protection	5-pin SPAK
MIC37152	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Protection	8-pin SOIC, 5-pin SPAK
MIC37153	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Protection	8-pin SOIC
MIC39150	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Protection	3-pin TO-263, 3-pin TO-220
MIC39151	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Protection	5-pin TO-220, 5-pin DDPAK
MIC39152	1500	2.25	16	Adj.	375	17 mA	±1	53	Reverse Battery and Current Protection	5-pin TO-252, 5-pin DDPAK
MIC47150	1500	1.4	6.5	Adj.	280	15 mA	±1	55	Low Dropout	5-pin TO-252
MIC49150	1500	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	15 mA	±1	57	Low Dropout	8-pin MSOP, 5-pin SPAK
MIC59150	1500	1	3.8	Adj.	100	12.5 mA	±1	60	Ultra Low Dropout	8-pin SOIC
MIC61150	1500	1.1	3.6	1.0, Adj.	75	7.6 mA	±1	50	Ultra Low Dropout, Soft Start	10-pin MSOP, 10-pin VDFN
MCP1727	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout	8-pin DFN, 8-pin SOIC 150mil
MCP1827	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout	5-pin TO-220, 5-pin DDPAK
MCP1827S	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout	3-pin TO-220, 3-pin DDPAK
MIC49200	2000	1.4	6.5	1.0, 1.8, Adj.	400	15 mA	±1	83	Low Dropout	5-pin SPAK
MIC68200	2000	1.65	5.5	1.2, 1.5, 1.8, 2.5, 3.3, Adj	300	42 mA	±1	60	Low Dropout, Soft Start	10-pin VDFN
MIC37252	2500	3	6	Adj.	550	40 mA	±2	50	Reverse Current Protection	5-pin SPAK, 5-pin DDPAK

POWER MANAGEMENT: Single Output Linear Regulators (Continued)

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	IGND Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features	Packages
MIC29300	3000	2.25	26	3.3, 5.0, 12	370	37 mA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-263, 3-pin TO-220
MIC29301	3000	2.25	26	3.3, 5.0, 12	370	37 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29302	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29302A	3000	3	16	Adj.	450	60 mA	±1	–	Reverse Battery and Current Protection	5-pin TO-252, 5-pin DDPAK
MIC29302H	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Protection	5-pin DDPAK
MIC29303	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29310	3000	2.3	16	3.3, 5.0	600	60 mA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-263, 3-pin TO-220
MIC29312	3000	2.3	16	Adj.	600	60 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC35302	3000	2.25	6	Adj.	370	20 mA	±1	50	Reverse Battery and Current Protection	5-pin TO-252
MIC37300	3000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	300	27 mA	±1	50	Reverse Current Protection	3-pin SPAK
MIC37301	3000	2.25	6	1.5, 1.8, 2.5, 3.3	300	27 mA	±1	50	Reverse Current Protection	8-pin SOIC, 5-pin SPAK
MIC37302	3000	2.25	6	Adj.	300	27 mA	±1	50	Reverse Current Protection	5-pin SPAK, 5-pin DDPAK
MIC37303	3000	2.25	6	Adj.	300	27 mA	±1	50	Reverse Current Protection	8-pin SOIC, 8-pin VDFN
MIC39300	3000	2.25	16	1.8, 2.5	385	45 mA	±1	–	Reverse Battery and Current Protection	3-pin TO-263, 3-pin TO-220
MIC39301	3000	2.25	16	1.8, 2.5	385	45 mA	±1	–	Reverse Battery and Current Protection	5-pin TO-220, 5-pin DDPAK
MIC39302	3000	2.25	16	Adj.	385	45 mA	±1	–	Reverse Battery and Current Protection	5-pin DDPAK
MIC47300	3000	1.4	6.5	Adj.	230	25 mA	±1	–	Low Dropout	5-pin TO-252
MIC49300	3000	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	25 mA	±1	–	Low Dropout	5-pin SPAK
MIC59300	3000	1	3.8	1.2V, Adj.	205	30 mA	±1	65	Low Dropout	8-pin SOIC, 5-pin DDPAK
MIC61300	3000	1.1	3.6	1.0, Adj.	150	7.6 mA	±1	55	Low Dropout, Soft Start	10-pin MSOP, 10-pin VDFN
MIC69301	3000	1.65	5.5	1.2	275	32 mA	±2	55	Low Dropout	8-pin SOIC, 5-pin SPAK, 5-pin DDPAK
MIC69302	3000	1.65	5.5	Adj.	275	32 mA	±2	55	Low Dropout	5-pin SPAK, 5-pin DDPAK
MIC69303	3000	1.65	5.5	Adj.	275	32 mA	±2	55	High Current	8-pin SOIC, 12-pin VDFN
MIC68400	4000	1.65	5.5	1.8, Adj.	360	90 mA	±2	50	Low Dropout, Soft Start	16-pin VQFN
MIC68401	4000	1.65	5.5	Adj.	360	90 mA	±2	50	Low Dropout, Soft Start	16-pin VQFN
MIC29500	5000	2.25	26	3.3, 5.0, 12	370	70 mA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-220
MIC29501	5000	2.25	26	3.3, 5.0, 12	370	70 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29502	5000	2.25	26	Adj.	370	70 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29503	5000	2.25	26	Adj.	370	70 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220, 5-pin DDPAK
MIC29510	5000	2.3	16	3.3, 5.0	700	100 mA	±1	–	Load Dump, Reverse Current Protection	3-pin TO-220
MIC29512	5000	2.3	16	Adj.	700	100 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-220
MIC37501	5000	2.3	6	1.5, 1.65, 1.8, 2.5, 3.3	330	57 mA	±1	–	Reverse Current Protection	7-pin SPAK
MIC37502	5000	2.3	6	Adj.	330	57 mA	±1	–	Reverse Current Protection	7-pin SPAK, 5-pin DDPAK
MIC39500	5000	2.25	16	1.8, 2.5	400	70 mA	±1	30	Reverse Battery and Current Protection	3-pin TO-263, 3-pin TO-220
MIC39501	5000	2.25	16	1.8, 2.5	400	70 mA	±1	30	Reverse Battery and Current Protection	5-pin TO-220, 5-pin DDPAK
MIC49500	5000	1.4	6	0.9, 1.2, Adj.	290	55 mA	±1	75	Low Dropout	7-pin SPAK
MIC69502	5000	1.65	5.5	Adj.	250	54 mA	±1	52	High Current	7-pin SPAK
MIC29712	7500	2.3	16	Adj.	700	250 mA	±2	–	High Current	5-pin TO-220
MIC29751	7500	2.5	26	3.3, 5.0	425	120 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-247
MIC29752	7500	2.5	26	Adj.	425	120 mA	±1	–	Load Dump, Reverse Current Protection	5-pin TO-247

POWER MANAGEMENT: Multiple Output Linear Regulators

Part #	Product Type	I_{OUT} #1	I_{OUT} #2	I_{OUT} #3	I_{OUT} #4	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	Voltage Drop Typ. (mV)	IGND Typ. (µA)	PSRR 1kHz (dB)	Packages
MIC2210	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	60	10-pin VDFN
MIC2211	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	60	10-pin VDFN
MIC2212	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	60	10-pin VDFN
MIC2213	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	60	10-pin VDFN, 16-pin VQFN
MIC2214	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	60	10-pin VDFN, 16-pin VQFN
MIC2215	Multi-Channel LDOs	250 mA	250 mA	250 mA	–	2.25	5.5	Please Refer to Datasheet	100	110 µA	70	16-pin VQFN
MIC2219	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120	48 µA	60	10-pin VDFN
MIC5202	Dual LDOs	100 mA	100 mA	–	–	2.5	26	Please Refer to Datasheet	225	170 µA	75	8-pin SOIC
MIC5208	Dual LDOs	50 mA	50 mA	–	–	2.5	16	Please Refer to Datasheet	250	180 µA	–	8-pin MSOP
MIC5210	Dual LDOs	150 mA	150 mA	–	–	2.5	16	Please Refer to Datasheet	165	80 µA	75	8-pin MSOP
MIC5211	Dual LDOs	80 mA	80 mA	–	–	2.5	16	Please Refer to Datasheet	250	90 µA	60	6-pin SOT-23
MIC5212	Dual LDOs	500 mA	500 mA	–	–	4	16	Please Refer to Datasheet	350	1.5mA	75	8-pin SOIC
MIC5264	Dual LDOs	150 mA	150 mA	–	–	2.7	5.5	Please Refer to Datasheet	210	75 µA	64	10-pin VDFN
MIC5310	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 µA	70	8-pin UDFN, 8-pin VDFN
MIC5311	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	120	28 µA	60	10-pin VDFN
MIC5312	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	120	28 µA	60	10-pin VDFN
MIC5315	Dual LDOs	300 mA	300 mA	–	–	1.7	5.5	Please Refer to Datasheet	85	30 µA	65	10-pin UDFN
MIC5316	Dual LDOs	300 mA	300 mA	–	–	1.7	5.5	Please Refer to Datasheet	85	30 µA	65	12-pin UDFN
MIC5320	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 µA	65	6-pin TSOT, 6-pin UDFN, 6-pin WDFN
MIC5321	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 µA	75	6-pin TSOT, 6-pin UDFN, 6-pin WDFN
MIC5322	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	150 µA	75	6-pin UDFN
MIC5330	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	75	85 µA	70	8-pin VDFN
MIC5331	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 µA	65	8-pin UDFN
MIC5332	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 µA	65	8-pin UDFN
MIC5333	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 µA	65	10-pin UDFN
MIC5335	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	75	90 µA	65	6-pin UDFN
MIC5338	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	220	38 µA	55	6-pin UDFN
MIC5339	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	220	38 µA	55	6-pin UDFN
MIC5350	Dual LDOs	300 mA	500 mA	–	–	2.6	5.5	Please Refer to Datasheet	75/125	95 µA	50	8-pin UDFN
MIC5355	Dual LDOs	500mA	500 mA	–	–	2.5	5.5	Please Refer to Datasheet	350	38 µA	55	8-pin MSOP
MIC5356	Dual LDOs	500mA	500 mA	–	–	2.5	5.5	Please Refer to Datasheet	350	38 µA	55	8-pin MSOP, 8-pin VDFN
MIC5357	Dual LDOs	500mA	500 mA	–	–	2.6	5.5	Please Refer to Datasheet	130	95 µA	70	8-pin MSOP
MIC5370	Dual LDOs	150mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	155	32 µA	60	6-pin UDFN
MIC5371	Dual LDOs	150mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 µA	60	6-pin UDFN
MIC5373	Multi-Channel LDOs	200mA	200 mA	200 mA	–	1.7	5.5	Please Refer to Datasheet	170	32 µA	55	16-pin UQFN
MIC5374	Multi-Channel LDOs	200 mA	200 mA	200 mA	1 mA	1.7	5.5	Please Refer to Datasheet	170	42 µA	55	16-pin UQFN
MIC5380	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 µA	60	10-pin UQFN
MIC5381	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 µA	60	10-pin UQFN
MIC5383	Multi-Channel LDOs	200 mA	200 mA	200 mA	–	1.7	5.5	Please Refer to Datasheet	170	32 µA	55	16-pin UQFN
MIC5384	Multi-Channel LDOs	200 mA	200 mA	200 mA	1 mA	1.7	5.5	Please Refer to Datasheet	170	42 µA	55	16-pin UQFN
MIC5385	Multi-Channel LDOs	150 mA	150 mA	150 mA	–	2.5	5.5	Please Refer to Datasheet	180	32 µA	70	8-pin UDFN
MIC5387	Multi-Channel LDOs	150 mA	150 mA	150 mA	–	2.5	5.5	Please Refer to Datasheet	180	32 µA	70	6-pin UDFN
MIC5388	Dual LDOs	200 mA	200 mA	–	–	2.5	5.5	Please Refer to Datasheet	175	32 µA	73	6-pin WLCSP

POWER MANAGEMENT: Multiple Output Linear Regulators (Continued)

Part #	Product Type	I_{OUT} #1	I_{OUT} #2	I_{OUT} #3	I_{OUT} #4	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	Voltage Drop Typ. (mV)	IGND Typ. (µA)	PSRR 1kHz (dB)	Packages
MIC5389	Dual LDOs	200 mA	200 mA	–	–	2.5	5.5	Please Refer to Datasheet	175	32 µA	73	6-pin WLCSP
MIC5392	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	57 µA	60	6-pin UDFN, 6-pin X2DFN
MIC5393	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	57 µA	60	6-pin X2DFN
MIC5396	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	60	8-pin UDFN, 8-pin X2DFN
MIC5397	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	60	8-pin UDFN, 8-pin X2DFN
MIC5398	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	60	8-pin X2DFN
MIC5399	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	60	8-pin UDFN, 8-pin X2DFN
MIC68220	Dual LDOs	2.0A	2.0A	–	–	1.65	5.5	Please Refer to Datasheet	300	15 mA	40	20-pin VDFN
TC1307	Multi-Channel LDOs	150 mA	150 mA	150 mA	150 mA	2.7	6	Please Refer to Datasheet	200	220 µA	60	16-pin QSOP
TC1301A	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	103 µA	58	8-pin MSOP, 8-pin DFN
TC1301B	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	114 µA	58	8-pin MSOP, 8-pin DFN
TC1302A	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	103 µA	58	8-pin MSOP, 8-pin DFN
TC1302B	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	114 µA	58	8-pin MSOP, 8-pin DFN

POWER MANAGEMENT: Linear Regulators – LDO Controller and SIM Card

Part #	Product Type	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	IGND Typ. (µA)	V_{REF} (V)	V_{EN} (V)	Internal Charge Pump	External N-Ch. MOSFET	Packages
MIC5156	LDO Controllers	3	36	3.3, 5.0, Adj.	2.7	1.235	2.4	–	Yes	8-pin SOIC, 8-pin PDIP
MIC5157	LDO Controllers	3	36	3.3, 5.0, 12	4.5	1.235	2.4	Yes	Yes	14-pin PDIP, 14-pin SOIC 150mil
MIC5158	LDO Controllers	3	36	5.0, Adj.	4.5	1.235	2.4	Yes	Yes	14-pin PDIP, 14-pin SOIC 150mil
MIC5159	LDO Controllers	1.65	5.5	1.8, 3.0, Adj.	10	1.235	1.2	–	Yes	6-pin SOT-23
MIC5190	LDO Controllers	0.9	5.5	Adj. down to 0.5V	15	0.5	0.8	–	Yes	10-pin MSOP, 10-pin VDFN
MIC5191	LDO Controllers	1	5.5	Adj. down to 1.0V	15	1	0.8	–	Yes	10-pin MSOP, 10-pin VDFN
MIC4555	SIM Card Lvl Shifter with 50 mA LDO	2.7	5.5	1.8, 3.3	41/79	–	–	–	–	16-pin VQFN

POWER MANAGEMENT: DDR Termination Regulators

Part #	I_{OUT}	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	PWR Good	VTT Accuracy	External Transistor	Sync Buck	Frequency	Features	Packages
MIC5162	±7A	1.35	6	1/2 of V_{IN}	–	±5 mV	✓	–	–		10-pin MSOP
MIC5163	±7A	0.75	6	1/2 of V_{IN}	–	±5 mV	✓	–	–	Low Voltage	10-pin MSOP
MIC5164	±7A	1.35	6	1/2 of V_{IN}	✓	±5 mV	✓	–	–		10-pin MSOP
MIC5165	±7A	0.75	6	1/2 of V_{IN}	✓	±5 mV	✓	–	–	Low Voltage	10-pin MSOP
MIC5166	±3A	0.9	3.6	1/2 of V_{IN}	✓	±25 mV	–	–	–	DDR 1, 2, 3, 4	3 × 3 DFN
MIC5167	±6A	2.6	5.5	Adj. down to 0.35V	✓	±12 mV	–	✓	1 MHz	Integrated Sync Buck	4 × 4 DFN

POWER MANAGEMENT: High-Voltage Linear Regulators

Part #	Input to Output Voltage Differential (Min.)	Input to Output Voltage Differential (Max.)	Output Voltage (V)	Max Output Current (mA)	Typical Line Regulation (%/V)	Typical Load Regulation (%/mA)	Packages
LR8	12	450	1.2–440	10	0.003	0.15	3-Lead TO-252, 3-Lead TO-92, 3-Lead SOT-89
LR12	12	100	1.2–88	50	0.003	0.06	3-Lead TO-252, 8-Lead SOIC, 3-Lead TO-92
LR645	15	450	10	3	0.0001	0.50	8-Lead SOIC, 3-Lead TO-92, 3-Lead TO-220, 3-Lead SOT-89
LR745	25	450	20	2	0.0001	0.50	3-Lead TO-92, 3-Lead SOT-89

POWER MANAGEMENT: Single Output Switching Regulators (Buck)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features	Packages
LX7167A	3.0 to 5.5	0.6 TO 3.3	–10 to +85	3000	2400	Skip-mode, UVLO, OV, Power Good	8-pin 2 x 2 DFN
LX7176	3.0 to 5.5	0.6 TO 3.3	0 to +85	1650	3000	PWM, 100% Duty Cycle, UVLO, OV, Power Good	12-pin 2 x 2 QFN
LX7176A	3.0 to 5.5	0.6 TO 3.3	0 to +85	1650	4000	PFM/PWM, 100% Duty Cycle, UVLO, OV, Power Good	12-pin 2 x 2 QFN
LX7180A	3.0 to 5.5	0.6 TO 3.3	0 to +85	1650	4000	I²C Programmable, Power Save Mode, Power Good	12-pin 2 x 2 QFN
LX7165/7178	3.0 to 5.5	0.6 TO 3.3	0 to +85	1875	5000	I²C Programmable, Power Save Mode, Power Good	1.6 x 2 WLCSP
LX7219/7220	2.7 to 5.5	0.6 TO 3.3	–40 to +85	1200	6000	I²C Programmable, Power Save Mode, Power Good	14-pin 2 x 3 VQFN
MCP1601	2.7 to 5.5	0.9V to V_{IN}	–40 to +85	750	500	UVLO, Auto-switching, LDO	8-pin MSOP
MCP1602	2.7 to 5.5	0.8 to 4.5	–40 to +85	2000	500	PFM, PWM auto-switching, UVLO, soft start, power good indicator	10-pin MSOP, 10-pin 3 × 3 DFN
MCP1603	2.7 to 5.5	0.8 to 4.0	–40 to +85	2000	500	Overtemperature and overcurrent protection	5-pin TSOT-23, 8-pin 2 × 3 DFN
MCP1612	2.7 to 5.5	0.8 to 5.5	–40 to +85	1400	1000	Overall efficiency > 94%, Soft start, overtemperature and overcurrent protection	8-pin MSOP, 8-pin 3 × 3 DFN
MIC2245	2.7 to 5.5	Adj.	–40 to +125	4,000	500	LDO Standby Mode and Low Q current	10-pin 3 × 3 MLF
MIC23030	2.7 to 5.5	1.0, 1.2, 1.5, 1.8, Adj.	–40 to +125	8,000	400	HyperLight Load® mode	6-pin 1.6 × 1.6 MLF
MIC23031	2.7 to 5.5	1.0, 1.2, 1.5, 1.8, Adj.	–40 to +125	4,000	400	HyperLight Load mode	6-pin 1.6 × 1.6 MLF
MIC23050	2.7 to 5.5	1.0, 1.2, 1.8, 3.3	–40 to +125	4,000	600	HyperLight Load mode	8-pin 2 × 2 MLF
MIC23051	2.7 to 5.5	1–1.2, 1–1.8, 1.15–1.4, 0.95–1.25	–40 to +125	4,000	600	HyperLight Load mode, voltage scaling	8-pin 2 × 2 MLF
MIC23150	2.7 to 5.5	1.0, 1.2, 1.35, 1.8, 3.3	–40 to +125	4,000	2,000	HyperLight Load mode	8-pin 2 × 2 MLF
MIC23153	2.7 to 5.5	1.8, Adj.	–40 to +125	4,000	2,000	Power Good, HypperLight Load mode	10-pin 2.5 × 2.5 MLF
MIC23155	2.7 to 5.5	1.8, Adj.	–40 to +125	3,000	2,000	Power Good, HypperLight Load mode	10-pin 2.5 × 2.5 MLF
MIC23303	2.7 to 5.5	Adj.	–40 to +125	4,000	3,000	Power Good, HypperLight Load mode	12-pin 3 × 3 DFN
MIC23201	2.7 to 5.5	Adj.	–40 to +125	2,000	2,000	Power Good	12-pin 3 × 3 DFN
MIC2202	2.3 to 5.5	Adj.	–40 to +125	1,600–2,500	600		10-pin MSOP, 10-pin 3 × 3 MLF
MIC2204	2.3 to 5.5	Adj.	–40 to +125	2,000	600		10-pin MSOP, 10-pin 3 × 3 MLF
MIC2267	3 to 5.5	Adj.	–40 to +125	400–1,500	2,000	Power Good	12-pin 3 × 3 MLF
MIC2207	2.7 to 5.5	Adj.	–40 to +125	2,000	3,000	Power Good	12-pin 3 × 3 MLF
MIC2208	2.7 to 5.5	Adj.	–40 to +125	1,000	3,000	Power Good	12-pin 3 × 3 MLF
MIC22200	2.6 to 5.5	Adj.	–40 to +125	800–1,200	3,000	Power Good	12-pin 3 × 3 MLF
MIC22400	2.6 to 5.5	Adj.	–40 to +125	300–4,000	4,000	Power Good	12-pin 3 × 3 MLF
MIC22601	2.6 to 5.5	Adj.	–40 to +125	4,000	6,000	Power Good	24-pin 4 × 4 MLF
MIC22602	2.6 to 5.5	Adj.	–40 to +125	1,000	6,000	Power Good	24-pin 4 × 4 MLF
MIC22700	2.6 to 5.5	Adj.	–40 to +125	1,000	7,000	Power Good	24-pin 4 × 4 MLF
MIC22950	2.6 to 5.5	Adj.	–40 to +125	400–2,000	10,000	Power Good	32-pin 5 × 5 MLF
MCP16311	4.4 to 30.0	2.0 to 24.0	–40 to +125	500	1000	PFM/PWM operation, enable function	8-pin MSOP, 8-pin 2 × 3 TDFN
MCP16312	4.4 to 30.0	2.0 to 24.0	–40 to +125	500	1000	PWM operation, enable function	8-pin MSOP, 8-pin 2 × 3 TDFN
MCP16301	4.0 to 30	2.0 to 15	–40 to +85	500	600	Integrated N-channel, UVLO, Soft start, overtemperature protection	6-pin SOT-23
MIC24045	4.5 to 19	0.64 to 5.25	–40 to +125	310–1200	5000	I²C Programmable, 4.5V–19V Input, 5A Step-Down Converter	20-pin 3 × 3 QFN
TC105	2.2 to 10	3.0, 3.3, 5.0	–40 to +85	300	1000	Low power shutdown mode	5-pin SOT-23A
MIC24046	4.5 to 19	0.7 to 3.3	–40 to +125	400–790	5000	Pin-Programmable, 4.5V–19V Input, 5A Step-Down Converter	20-pin 3 × 3 QFN
MIC24051	4.5 to 19	Adj.	–40 to +125	600	6000	Power Good, Soft Start, Architecture Regulation Scheme	28-pin 5 × 6 QFN
MIC24052	4.5 to 19	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode	28-pin 5 × 6 QFN
MIC24053	4.5 to 19	Adj.	–40 to +125	600	9000	Power Good, Soft Start, Architecture Regulation Scheme	28-pin 5 × 6 QFN
MIC24054	4.5 to 19	Adj.	–40 to +125	600	9000	Power Good, Soft Start, HyperLight Load mode	28-pin 5 × 6 QFN
MIC24055	4.5 to 19	Adj.	–40 to +125	600	12000	Power Good, Soft Start, Architecture Regulation Scheme	28-pin 5 × 6 QFN
MIC24056	4.5 to 19	Adj.	–40 to +125	600	12000	Power Good, Soft Start, HyperLight Load mode	28-pin 5 × 6 QFN
MIC26601	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, Hyper Speed Control®architecture	28-pin 5 × 6 QFN
MIC26603	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode	28-pin 5 × 6 QFN
MIC26603Z	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode	28-pin 5 × 6 QFN
MIC26901	4.5 to 28	Adj.	–40 to +125	600	9000	Power Good, Soft Start, Hyper Speed Control architecture	28-pin 5 × 6 QFN
MIC26903	4.5 to 28	Adj.	–40 to +125	600	9000	Power Good, Soft Start, HyperLight Load mode	28-pin 5 × 6 QFN
MIC26950	4.5 to 26	Adj.	–40 to +125	300	12000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown	28-pin 5 × 6 QFN

POWER MANAGEMENT: Single Output Switching Regulators (Buck) (Continued)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features	Packages
MIC27600	4.5 to 36	Adj.	–40 to +125	300	7000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown	28-pin 5 × 6 QFN
MIC4680	4 to 34	3.3, 5.0, Adj.	–40 to +125	200	1,300		8-pin SOIC
MIC4681	4 to 30	Adj.	–40 to +125	400	2,000		8-pin SOIC
MIC4682	4 to 34	Adj.	–40 to +125	200	2,000		8-pin SOIC
MIC4684	4 to 30	Adj.	–40 to +125	200	2,000		8-pin SOIC
MIC4685	4 to 30	Adj.	–40 to +125	200	3,000		7-pin SPAK
MCP16331	4.4 to 50	2.0 to 24.0	–40 to +125	500	1000	Integrated N-channel, UVLO, Soft start, Overtemperature Protection	6-pin SOT-23, 8-pin 2 x 3 TDFN
MIC28510	4.5 to 75	Adj.	–40 to +125	100–500	4000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown	28-pin 5 × 6 QFN
MIC28511-1	4.6 to 60	Adj.	–40 to +125	200–680	3000	Power Good, Soft Start, HyperLight Load® mode	24-pin 3 × 4 FCQFN
MIC28511-2	4.6 to 60	Adj.	–40 to +125	200–680	3000	Power Good, Soft Start, Hyper Speed Control architecture	24-pin 3 × 4 FCQFN
MIC28514	4.5 to 75	0.6 to 32	–40 to +125	270–800	5000	Adj. Soft Start, Power Good, Internal Compensation, Enable, Pre-bias Start Up	32-pin 6 × 6 VQFN
MIC28515	4.5 to 75	0.6 to 32	–40 to +125	270–800	5000	Selectable Operating Mode, Power Good, Internal Compensation, Enable, Pre-Bias Start Up	32-pin 6 × 6 VQFN
MIC28512-1	4.6 to 70	Adj.	–40 to +125	200–680	2000	Power Good, Soft Start, HyperLight Load mode	24-pin 3 × 4 FCQFN
MIC28512-2	4.6 to 70	Adj.	–40 to +125	200–680	2000	Power Good, Soft Start, Hyper Speed Control architecture	24-pin 3 × 4 FCQFN
MIC28513-1	4.6 to 45	Adj.	–40 to +125	200–680	4000	Power Good, Soft Start, Hyper Speed Control architecture	24-pin 3 × 4 FCQFN
MIC28513-2	4.6 to 45	Adj.	–40 to +125	200–680	4000	Power Good, Soft Start, Hyper Speed Control architecture	24-pin 3 × 4 FCQFN
MIC4930	2.7 to 5.5	Adj.	–40 to +125	3300	3000	Power Good, Safe Start, Thermal Shutdown and Current Limit	10-pin 3 × 4 DFN
MIC4950	2.7 to 5.5	Adj.	–40 to +125	3300	5000	Power Good, Safe Start, Thermal Shutdown and Current Limit	8-pin SOIC, 10-pin 3 × 4 DFN

POWER MANAGEMENT: Single Output Switching Regulators (Boost)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Switch Current (mA)	Features	Packages
MCP1623/4	0.65 to 5.5	2.0 to 5.5	–40 to +85	500	425	Integrated synchronous boost regulator, 0.65V start-up voltage, soft start, true load disconnect	6-pin SOT-23, 8-pin (2 × 3) DFN
MCP1642B/D	0.65 to 5.5	1.8 to 5.5	–40 to +85	1000	1800	Integrated synchronous boost regulator, 0.65V start-up voltage, soft start, enable, power good output, true load disconnect or input-to-output bypass option	8-pin MSOP, 8-pin (2 × 3) DFN
MCP16251/2	0.82 to 5.5	1.8 to 5.5	–40 to +85	500	650	True load disconnect shutdown (MCP16251)/Input to output bypass shutdown (MCP16252)	6-pin SOT-23, 8-pin (2 × 3) DFN
MCP1640/B/C/D	0.65 to 5.5	2.0 to 5.5	–40 to +85	500	800	Integrated synchronous boost regulator, 0.65V start-up voltage, Soft start, True load disconnect or input-to-output bypass option	6-pin SOT-23, 8-pin (2 × 3) DFN
MCP1643	0.5 to 5.5	0.6 to 5.0	–40 to +85	1000	1600	True load disconnect, Shutdown	8-pin MSOP, 8-pin (2 × 3) DFN
MCP1665	2.7 to 5	Up to 32	–40 to +85	500	3600	Pin selectable PWM or PFM/PWM mode	10-pin (2 × 2) VQFN
MCP1663/4	2.4 to 5.5	Up to 32	–40 to +85	500	1800	High-efficiency (up to 92%), fixed-frequency, non-synchronous, 300 mV feedback for LED driving (MCP1664)	5-pin SOT-23, 8-pin (2 × 3) TDFN
MCP1661/2	2.4 to 5.5	Up to 32	–40 to +85	500	1300	Non-synchronous, Soft start, Enable, 300 mV feedback for LED driving (MCP1662)	6-pin SOT-23, 8-pin (3 × 3) TDFN
MIC2141	2.2 to 14	Up to 22	–40 to +85	330	1000	Micropower bost converter with control signal input to proportionally adjust output voltage	5-pin SOT-23
MIC2619	2.8 to 6.5	Up to 35	–40 to +125	1200	350	1.2 MHz PWM boost converter with OVP	6-pin Thin SOT-23
MIC2290	2.5 to 10	Up to 34	–40 to +125	1200	750	2 mm × 2 mm PWM boost regulator with internal Schottky diode	2 × 2 MLF
MIC2605/06	4.5 to 20	Up to 40	–40 to +125	1200/2000	500	0.5A, 1.2 MHz/2 MHz wide input range boost with integrated switch and Schottky diode	2 × 2 MLF
MIC2145	2.4 to 16	Up to 16	–40 to +85	450	900	High-efficiency 2.5W boost converter	8-pin MSOP, 3 × 3 MLF
MIC2570/1	1.3 to 15	Up to 36	–40 to +85	20	1100	Two-cell/single-cell switching regulator	8-pin SOIC, 8-pin MSOP
MIC2288	2.5 to 10	Up to 34	–40 to +125	1200	1200	1A 1.2 MHz PWM boost converter in Thin SOT-23 and 2 mm × 2 mm MLF	5-pin SOT-23, 2 × 2 MLF
MIC3172	3 to 40	Up to 65	–40 to +85	100	1250	100 kHz 1.25A switching regulators with enable pin	8-pin SOIC, 8-pin DIP
MIC2295/96	2.5 to 10	Up to 34	–40 to +125	1200/600	1200	High power density 1.2A boost regulator	5-pin SOT-23, 2 × 2 MLF
MIC2601/02	4.5 to 20	Up to 40	–40 to +125	1200/2000	1200	1.2A, 1.2 MHz/2 MHz wide input range integrated switch boost regulator	2 × 2 MLF
MIC2250/51	2.5 to 5.5	Up to 32/27	–40 to +125	Variable	900	High-efficiency low EMI boost regulator with frequency dithering	5-pin SOT-23, 2 × 2 MLF
MIC2172	3 to 40	Up to 65	–40 to +85	100	1250	100 kHz 1.25A switching regulator with frequency sync	8-pin DIP, 8-pin SOIC
MIC2253	2.5 to 10	Up to 30	–40 to +125	1000	3500	3.5A 1 MHz high-efficiency boost regulator with OVP and softstart	3 × 3 MLF
MIC2171	3 to 40	Up to 65	–40 to +85	100	2500	100 kHz 2.5A switching regulator	TO220, TO263
MIC2875/76	2.5 to 6	Up to 6	–40 to +125	2000	4800	4.8A ISW, synchronous boost regulator with bi-directional load disconnect	2 × 2 Thin MLF
MIC2877	2.5 to 5.5	V_{IN} to 5.5V	–40 to +125	2000	6500	6.5A ISW, synchronous boost regulator with bidirectional load disconnect	2 × 2 FTQFN

POWER MANAGEMENT: Multiple Output Switching Regulators

Part #	Description	Input Voltage Range (V)	Number of Outputs	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Output Current (mA)	Features	Packages
MIC4742	2 MHz Dual 2A Integrated Switch Buck Regulator	2.9 to 5.5	2	DC/DC: 0.6 to 5.5	–40 to +125	PWM Mode	2000	DC to DC: 2,000/2,000 mA		16-pin 3 × 3 MLF, SSOP
MIC4744	4 MHz Dual 2A Integrated Switch Buck Regulator	2.9 to 5.5	2	DC/DC: 0.6 to 5.5	–40 to +125	PWM Mode	4000	DC to DC: 2,000/2,000 mA		16-pin 3 × 3 MLF, SSOP
MIC4782	1.8M Hz Dual 2A Integrated Switch	3 to 6	2	DC/DC: 0.6 to 6	–40 to +125	PWM Mode	1800	DC to DC: 2,000/2,000 mA		3 × 3 MLF
MIC2238	2.5 MHz Dual Phase PWM Buck Regulator	2.5 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	2500	DC to DC: 800/800 mA	Automatic switching into light load mode of operation	3 × 3 MLF
MIC23250	4 MHz Dual Synchronous Buck Regulator	2.7 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC: 400/400 mA	With HyperLight Load®mode	2 × 2 MLF, 2.5 × 2.5 MLF
MIC23254	4 MHz Dual 400 mA Synchronous Buck Regulator	2.5 to 5.5	2	1.0/1.8	–40 to +125	PWM Mode	4000	DC to DC: 400/400 mA	With Low Input Voltage and HyperLight Load mode	2 × 2 MLF
MIC23450	3 MHz, PWM, 2A Triple Buck Regulator	2.7 to 5.5	3	DC/DC: 1.0 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000/2,000 mA	With HyperLight Load mode and Power Good	5 × 5 QFN
MIC24420	2.5A Dual Output PWM Synchronous Buck Regulator	4.5 to 15	2	DC/DC: 0.7 to 10.5	–40 to +125	PWM Mode	1000	DC to DC: 2,500/2,500 mA	Power Good and Soft Start, 180° out of phase operation	4 × 4 QFN
MIC24421	2.5A Dual Output PWM Synchronous Buck Regulator	4.5 to 15	2	DC/DC: 0.7 to 10.5	–40 to +125	PWM Mode	500	DC to DC: 2,500/2,500 mA	Power Good and Soft Start, 180° out of phase operation	4 × 4 QFN
MIC25400	2A Dual Output PWM Synchronous Buck Regulator	4.5 to 13.2	2	DC/DC: 0.7 to 9.4	–40 to +125	PWM Mode	1000	DC to DC: 2,000/2,000 mA	180° out of phase operation	4 × 4 QFN
MIC23158	3 MHz PWM Dual 2A Buck Regulator with Output Auto Discharge + B15	2.7 to 5.5	2	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000 mA	HyperLight Load mode, Power Good and Output Auto-Discharge	3 × 4 MLF
MIC23159	3 MHz PWM Dual 2A Buck Regulator	2.7 to 5.5	2	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000 mA	HyperLight Load mode and Power Good	3 × 4 MLF
MIC23451	3 MHz, 2A Triple Synchronous Buck Regulator	2.7 to 5.5	3	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000/2,000 mA	HyperLight Load mode and Power Good	4 × 4 QFN
MIC2230	Dual Synchronous Step-Down DC/DC Regulator	2.5 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	2500	DC to DC: 800/800 mA	Power Good and Soft Start	3 × 3 MLF
MIC23060	4 MHz DC/DC Regulator and LDO Regulator	2.7 to 5.5	2	DC/DC Boost: 1.8 to 3.3 DC/DC Buck: 1 to Boost VOUT	–40 to +125	PWM Mode	4000	DC to DC Buck: 600 mA, LDO: 300 mA	Flexible sequencing feature	2.5 × 2.5 MLF
MIC2225	2 MHz DC/DC Converter with LDO	2.7 to 5.5	2	DC/DC: 1.0 to 4.5 LDO: 0.8 to 3.3	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300 mA	Independent enable, >95% efficiency	2 × 2 MLF
MIC23099	Step-Up/Step-Down Regulators with Battery Monitoring	0.85 to 1.6	2	DC/DC: 1.7 to 2.5 LDO: 0.8 to 2.5	–40 to +125	PWM Mode	100 Boost, 1000 Buck	DC to DC Buck: 30mA, DC/DC Boost 200 mA	AA/AAA Battery Monitoring	2.5 × 2.5 QFN
MIC2800	2 MHz DC/DC Converter with Two Linear Regulators. POR/Power Good pin and LOWQ Mode	2.7 to 5.5	3	DC/DC: 1.8 to 3.3 LDOs: 0.8 to 3.6	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300 mA	POR/Power Good pin and LOWQ mode	3 × 3 MLF
MIC2810	2 MHz DC/DC Regulator with Two Linear Regulators. LDO1 has a separate VIN pin and can either post-regulate the DC/DC converter or be connect directly to the main input supply. POR/Power Good Pin.	2.7 to 5.5	3	DC/DC: 1.8 to 3.3 LDOs: 0.8 to 3.6	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300 mA	LDO1 has a separate VIN pin and can either post-regulate the DC/DC converter	3 × 3 MLF
MIC2811	2 MHz 600 mA DC/DC Regulators with Triple 300 mA LDOs	2.7 to 5.5	4	LDO1/2 : 0.8 to 3.6 LDO3 : 1.0 to 3.9	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300/300 mA	LDO1 and LDO2 have separate Vin	3 × 3 MLF
MIC2821	2 MHz 600 mA DC/DC Regulators with Triple 300 mA LDOs	2.7 to 5.5	4	LDO1/2 : 0.8 to 3.6 LDO3 : 1.0 to 3.9	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300/300 mA	Independent enable for all four regulators.	3 × 3 MLF
MIC2826	Quad Output PMIC with HyperLight Load Mode DC/DC, Three LDOs and I²C Control	2.7 to 5.5	4	DC/DC : 0.8 to 1.8 LDOs : 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC Buck: 500 mA, LDO: 150/150/150 mA	I²C Control and Dynamic Voltage Scaling 3 LDOs	2.5 × 2.5 MLF
MIC2827	Triple Output PMIC with HyperLight Load Mode DC-DC, Two LDOs and I²C Control	2.7 to 5.5	3	DC/DC : 0.8 to 1.8 LDOs : 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC Buck: 500 mA, LDO: 150/150 mA	I²C Control and Dynamic Voltage Scaling 3 LDOs	2.5 × 2.5 MLF

POWER MANAGEMENT: Multiple Output Switching Regulators (Continued)

Part #	Description	Input Voltage Range (V)	Number of Outputs	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Output Current (mA)	Features	Packages
MIC7400	Configurable Five-Channel Buck Regulator Plus One-Boost	2.4 to 5.5	6	Bucks: 0.8 to 3.3 (Configurable) Boost: 7.0 to 14.0 (Configurable)	–40 to +125	PWM Mode	2000 Boost, 1300 Bucks	DC to DC Bucks: 3,000 mA, DC/DC Boost 200 mA	Highly integrated configurable, featuring five buck regulators, one boost regulator and global power good indicator	4.5 × 4.5 QFN
MIC7401	Configurable Five-Channel Buck Regulator Plus One-Boost with HyperLight Load mode, I²C Control, and Enable	2.4 to 5.5	6	Bucks : 0.8 to 3.3 (Configurable) Boost : 7.0 to 14.0 (Configurable)	–40 to +125	PWM Mode	2000 Boost, 1300 Bucks	DC to DC Bucks: 3,000 mA, DC/DC Boost 200 mA	Highly integrated configurable, featuring five buck regulators, one boost regulator, global power good indicator and enable pin	4.5 × 4.5 QFN

POWER MANAGEMENT: Combination Switching Regulators

Part #	Description	Input Voltage Range (V)	Output Voltage (V)	Operating Temp. Range (°C)	Control Scheme	Switching Frequency (kHz)	Typical Active Current (mA)	Output Current (mA)	Features	Packages
TC1303	Synchronous Buck Regulator, LDO with Power Good	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/PWM auto-switching, Power good output	10-pin MSOP, 10-pin 3 × 3 DFN
TC1304	Synchronous Buck Regulator, LDO	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/PWM auto-switching, Power sequencing	10-pin MSOP, 10-pin 3 × 3 DFN
TC1313	Synchronous Buck Regulator, LDO	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/PWM auto-switching	10-pin MSOP, 10-pin 3 × 3 DFN

POWER MANAGEMENT: Inductorless Offline Switching Regulators

Part #	V_{IN} (V_{AC})	Adjustable V_{OUT} (V)	Fixed V_{OUT} (V)	I_{OUT} Max. (mA)	Load Regulation (%/mA)	Packages
SR086	80–285	9.0–50	3.3	100	0.025	8-Lead SOIC with Heat Slug
SR087	80–285	9.0–50	5	100	0.017	8-Lead SOIC with Heat Slug
SR10	80–285	6.0–28	6.0, 12, 24	60	–	8-Lead SOIC

POWER MANAGEMENT: PWM Controllers

Part #	Supported Topologies	Supported Outputs	Input Voltage Range (V)	Output Voltage (V)	Operating Frequency (Hz)	Operating Temp. Range (°C)	Features	Packages
MIC2101	Sync. Buck	1	4.5 to 38	0.8 to 24	200k to 600k	–40 to +125	HyperLight Load®mode, External Clock Sync, Power Good, Soft Start, Internal Compensation and Voltage Bias	16-pin 3 × 3 MLF®
MIC2102	Sync. Buck	1	4.5 to 38	0.8 to 24	200k to 600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias	16-pin 3 × 3 MLF
MIC2103	Sync. Buck	1	4.5 to 75	0.8 to 24	200k to 600k	–40 to +125	HyperLight Load mode, External Clock sync, Power Good, Soft Start, Internal Compensation and Voltage Bias	16-pin 3 × 3 MLF
MIC2104	Sync. Buck	1	4.5 to 75	0.8 to 24	200k to 600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias	16-pin 3 × 3 MLF
MIC2111B	Sync. Buck	1	3.3 to 5.5	0.6 to 3.64	200k to 2M	–40 to +125	Power Good, Soft Start, Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection	3 × 3 QFN
MIC2124	Sync. Buck	1	3.0 to 18	0.8 to 12	300k	–40 to +125	Soft Start, Internal Voltage Bias	10-pin MSOP
MIC2130	Sync. Buck	1	8.0 to 40	0.7 to 24	150k or 400k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias	16-pin e-TSSOP, 16-pin 4 × 4 MLF
MIC2131	Sync. Buck	1	8.0 to 40	0.7 to 24	150k or 400k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias	16-pin e-TSSOP, 16-pin 4 × 4 MLF
MIC2150	Sync. Buck	2	4.5 to 14.5	0.7 to 5.5	500k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias	24-pin 4 × 4 MLF
MIC2151	Sync. Buck	2	4.5 to 14.5	0.7 to 5.5	300k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias	24-pin 4 × 4 MLF
MIC2155	Sync. Buck	1	4.5 to 14.5	0.7 to 3.6	500k	–40 to +125	External Clock Sync, Power Good, Soft Start	32-pin 5 × 5 MLF
MIC2164	Sync. Buck	1	3.0 to 28	0.8 to 5.5	300k, 600k, 1M	–40 to +125	Soft Start, Internal Compensation and Voltage Bias	10-pin MSOP
MIC2164C	Sync. Buck	1	3.0 to 28	0.8 to 5.5	270k	–40 to +125	Soft Start, Internal Compensation and Voltage Bias	10-pin MSOP
MIC2165	Sync. Buck	1	4.5 to 28	0.8 to 5.5	600k	–40 to +125	Hyper Speed Control® architecture, Power Good, Soft Start, Internal Voltage Bias	10-pin MSOP
MIC2166	Sync. Buck	1	4.5 to 28	0.8 to 5.5	600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias	10-pin MSOP
MIC2168	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	1.0M	–40 to +125	Soft Start, Internal Compensation and Voltage Bias	10-pin MSOP
MIC2169	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias	10-pin MSOP
MIC2169A	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias	10-pin MSOP

POWER MANAGEMENT: PWM Controllers (Continued)

Part #	Supported Topologies	Supported Outputs	Input Voltage Range (V)	Output Voltage (V)	Operating Frequency (Hz)	Operating Temp. Range (°C)	Features	Packages
MIC2169B	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias	10-pin MSOP
MIC2176	Sync. Buck	1	4.5 to 75	0.8 to 24	100k, 200k, or 300k	–40 to +125	Soft Start, Internal Compensation and Voltage Bias	10-pin MSOP
MIC2182	Sync. Buck	1	4.5 to 32	1.25 to 6.0	300k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias	16-pin SOP. 16-pin SSOP
MIC2183	Sync. Buck	1	2.9 to 14	1.3 to 12	200k/400k	–40 to +125	External Clock Sync, Soft Start, Internal Voltage Bias	16-pin SOP. 16-pin QSOP
MIC2125	Sync. Buck	1	4.5 to 28	0.6 to 24	200k to 750k	–40 to +125	HyperLight Load mode, Power Good, Soft Start (7 ms), Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection	16-pin 3 × 3 MLF
MIC2126	Sync. Buck	1	4.5 to 28	0.6 to 24	200k to 750k	–40 to +125	Power Good, Soft Start (7 ms), Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection	16-pin 3 × 3 MLF
MIC2128	Sync. Buck	1	4.5 to 75	0.6 to 30	200k to 800k	–40 to +125	Programmable soft-start/frequency/current-limit, Internal compensation and voltage bias	16-pin 3 × 3 MLF
MIC2127A	Sync. Buck	1	4.5 to 75	0.6 to 30	200k to 800k	–40 to +125	Light load operation, Programmable frequency,Current Limit, Switch over LDO	16-pin 3 × 3 MLF
MIC2184	Async. Buck	1	2.9 to 14	1.3 to 12	200k/400k	–40 to +125	External Clock Sync, Soft Start, Internal Voltage Bias	16-pin SOP. 16-pin QSOP
MIC2185	Boost, SEPIC, Ćuk	1	2.9 to 14	3.3 to 5.5	200k/400k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias	16-pin SOIC, 16-pin QSOP
MIC2186	Boost, SEPIC, Flyback	1	2.9 to 14	3.3 to 5.5	100/200/400k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias	16-pin SOP. 16-pin QSOP
MIC2193	Sync. Buck	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal Voltage Bias, UVLO	8-pin SOIC
MIC2194	Async. Buck	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection	8-pin SOIC
MIC2196	Boost, SEPIC	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection	8-pin SOIC
MIC2198	Sync. Buck	1	4.5 to 32	0.8 to 6.0	500k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection	12-pin 4 × 4 MLF
MIC2199	Buck	1	4.5 to 32	0.8 to 6.0	300k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection	12-pin 4 × 4 MLF
MIC3808	Push-Pull, Half Bridge, Full Bridge	1	8.3 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection	8-pin SOP, 8-pin MSOP
MIC3809	Push-Pull, Half Bridge, Full Bridge	1	4.1 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection	8-pin SOP, 8-pin MSOP
MIC3838	Push-Pull, Half Bridge, Full Bridge	1	8.3 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection	10-pin MSOP
MIC3839	Push-Pull, Half Bridge, Full Bridge	1	4.1 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection	10-pin MSOP
MIC38C42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin MSOP, 8-pin SOIC, 14-pin SOIC
MIC38C43	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin MSOP, 8-pin SOIC, 14-pin SOIC
MIC38C44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin MSOP, 8-pin SOIC, 14-pin SOIC
MIC38C45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin MSOP, 8-pin SOIC, 14-pin SOIC
MIC38HC42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin SOIC, 14-pin SOIC
MIC38HC44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin SOIC, 14-pin SOIC
MIC38HC45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies	8-pin PDIP, 14-pin PDIP, 8-pin SOIC, 14-pin SOIC
MIC9130	Forward, Flyback	1	9.0 to 180	–	Adj. to 1.5M	–40 to +125	Forward,Flyback Supported Topologies, External Clock Sync	16-pin SOIC, 16-pin QSOP
MIC9131	Forward, Flyback	1	9.0 to 180	–	Adj. to 1M	–40 to +125	Forward,Flyback Supported Topologies, External Clock Sync	16-pin SOIC, 16-pin QSOP
MCP1630	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 1M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection	8-pin 2x3 DFN, 8-pin MSOP
MCP1630V	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 1M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection	8-pin 2x3 DFN, 8-pin MSOP
MCP1631	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection	20-pin TSSOP, 20-pin SSOP, 20 pin 4 × 4 QFN
MCP1631V	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection	20-pin TSSOP, 20-SSOP, 20-pin 4 × 4 QFN
MCP1631HV	Flyback, Boost, SEPIC, Ćuk	1	3.5 to 16	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection	20-pin TSSOP, 20-SSOP
MCP1631VHV	Flyback, Boost, SEPIC, Ćuk	1	3.5 to 16	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection	20-pin TSSOP, 20-SSOP
MCP1632	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 6	–	300k/600k	–40 to +125	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection	8-pin MSOP, 8-pin 2 × 3 DFN
MCP19035	Sync. Buck	1	4.5 to 30	–	300k/600k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection	10-pin 3 × 3 DFN

POWER MANAGEMENT: Hybrid PWM Controllers – Digitally Enhanced Power Analog

Part #	Input Voltage Range (V)	Output Voltage (V)	Topologies Supported	Channels	Program Memory Size (kWords)	RAM (bytes)	GPIO	Product features integrated MCU, LDO, MOSFET drivers, 10-bit ADC, temp sensor, user-configurable operation and:	Packages
MCP19110	4.5 to 32	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	11	Configurable and dynamically changeable internal analog compensation network	24-pin 4 × 4 QFN
MCP19111	4.5 to 32	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	14	Configurable and dynamically changeable internal analog compensation network and a debug interface	28-pin 5 × 5 QFN
MCP19114	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	8	Excellent regulation for constant current applications	24-pin 4 × 4 QFN
MCP19115	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	12	Excellent regulation for constant current applications and a debug interface	28-pin 5 × 5 QFN
MCP19116	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	8	336	8	Improved current regulation accuracy, additional code space (compared to MCP19114 or MCP19115)	24-pin 4 × 4 QFN
MCP19117	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	8	336	12	Improved current regulation accuracy, additional code space (compared to MCP19114 or MCP19115) and a debug interface	28-pin 5 × 5 QFN
MCP19118	4.5 to 40	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	11	Configurable and dynamically changeable internal analog compensation network	24-pin 4 × 4 QFN
MCP19119	4.5 to 40	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	14	Configurable and dynamically changeable internal analog compensation network and a debug interface	28-pin 5 × 5 QFN
MCP19122	4.5 to 40	0.3 to 16	Sync. Buck	1	4	256	12	Emulated average current mode control, programmable gain feedback amplifier, multiphase operation, improved regulation accuracy and current measurement accuracy (Compared to MCP19110/1/8/9)	24-pin 4 × 4 QFN
MCP19123	4.5 to 40	0.3 to 16	Sync. Buck	1	4	256	16	Emulated average current mode control, programmable gain feedback amplifier, multiphase operation, improved regulation accuracy and current measurement accuracy (Compared to MCP19110/1/8/9) and a debug interface	28-pin 5 × 5 QFN
MCP19124	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	8	Dual independent voltage and current control loops allow seamless transitions from constant voltage to constant current regulation	24-pin 4 × 4 QFN
MCP19125	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	12	Dual independent voltage and current control loops allow seamless transitions from constant voltage to constant current regulation and a debug interface	28-pin 5 × 5 QFN
MCP19214	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	2	8	336	8	Dual channels, which can be configured to control two outputs, or one bi-directional system	28-pin 5 × 5 QFN
MCP19215	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	2	8	336	12	Dual channels, which can be configured to control two outputs, or one bi-directional system and a debug interface	32-pin 5 × 5 QFN

POWER MANAGEMENT: Power Modules

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Temp. Range (°C)	Control Scheme	Switching Frequency (kHz)	V_{OUT} Max. (V)	Output Current (A)	Features	Packages
MIC28304-1	4.5 to 70	Adj.	–40 to +125	COT	600	24	3	HyperLight Load® Mode, Power Good, Soft Start	64-pin 12 × 12 QFN
MIC28304-2	4.5 to 70	Adj.	–40 to +125	COT	600	24	3	Hyper Speed Control® Architecture, Power Good, Soft Start	64-pin 12 × 12 QFN
MIC45205-1	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	6	HyperLight Load Mode, Power Good, Soft Start	52-pin 8 × 8 QFN
MIC45205-2	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	6	Hyper Speed Control Architecture, Power Good, Soft Start	52-pin 8 × 8 QFN
MIC45208-1	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	10	HyperLight Load Mode, Power Good, Soft Start	52-pin 10 × 10 QFN
MIC45208-2	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	10	Hyper Speed Control Architecture, Power Good, Soft Start	52-pin 10 × 10 QFN
MIC45212-1	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	14	HyperLight Load Mode, Power Good, Soft Start	64-pin 12 × 12 QFN
MIC45212-2	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	14	Hyper Speed Control Architecture, Power Good, Soft Start	64-pin 12 × 12 QFN
MIC33030	2.7 to 5.5	1.2, 1.8, Adj.	–40 to +125	PWM	8,000	3.6	0.4	HyperLight Load Mode	10-pin 2.5 × 2.0 MLF®
MIC33050	2.7 to 5.5	1.0, 1.2, 1.8, 3.3, Adj.	–40 to +125	PWM	4,000	3.3	0.6	HyperLight Load Mode	12-pin 3 × 3 MLF
MIC33153	2.7 to 5.5	1.2, Adj.	–40 to +125	PWM	4,000	3.6	1.2	HyperLight Load Mode, Power Good, Soft Start	14-pin 3 × 3.5 MLF
MIC3385	2.7 to 5.5	1.5, Adj.	–40 to +125	PWM	8,000	5.5	0.6	LowQ	14-pin 3 × 3.5 MLF
MIC28303-1	4.5 to 50	Adj.	–40 to +125	COT	600	24	3	HyperLight Load Mode, Power Good, Soft Start	64-pin 12 × 12 QFN
MIC28303-2	4.5 to 50	Adj.	–40 to +125	COT	600	24	3	Hyper Speed Control Architecture, Power Good, Soft Start	64-pin 12 × 12 QFN
MIC45116-1	4.5 to 20	Adj.	–40 to +125	COT	600	17	6	HyperLight Load Mode, Power Good, Soft Start	52-pin 8 × 8 QFN
MIC45116-2	4.5 to 20	Adj.	–40 to +125	COT	600	17	6	Hyper Speed Control Architecture, Power Good, Soft Start	52-pin 8 × 8 QFN
MIC45404	4.5 to 19	Selectable	–40 to +125	Fixed	400–790	3.3	5	Power Good, Soft Start	64-pin 6 × 10 QFN

POWER MANAGEMENT: Charge Pump DC-to-DC Converters

Part #	Configuration	Input Voltage Range (V)	Output Voltage (V)	Typical Output Current (mA)	Switching Frequency (kHz)	Supply Current (Is, floating output µA, 25°C)	Output Resistance (Ω, at typical output current, 25°C)	Power Conversion Efficiency (%)	Features	Packages
Inverting or Doubling Charge Pumps										
TC682	Inverted doubling	2.4 to 5.5	–2*VIN	10	12	185	140	92% at 2.5 mA	–	8-pin SOIC and 8-pin PDIP
TC1240A	Doubling	2.5 to 5	2*VIN	20	80	550	12	94% at 5 mA	Shutdown	6-pin SOT-23
TC7660S	Inverting or doubling	1.5 to 12	–VIN or 2* VIN	20	10 or 45	80	60	98% at 1 mA	Boost pin increases switching frequency	8-pin SOIC and 8-pin PDIP
TC7660H	Inverting or doubling	1.5 to 10	–VIN or 2* VIN	20	120	1000	55	85% at 10 mA	High-voltage oscillator	8-pin SOIC and 8-pin PDIP
TC7662B	Inverting or doubling	1.5 to 15	–VIN or 2* VIN	20	10 or 35	80	65	96% at 1 mA	Boost pin increases switching frequency	8-pin SOIC and 8-pin PDIP
TC7662A	Inverting or doubling	3 to 18	–VIN or 2* VIN	40	12	190	50	97% at 7.5 mA	No low-voltage terminal required	8-pin PDIP
TC962	Inverting or doubling	3 to 18	–VIN or 2* VIN	80	12 or 24	190	35	97% at 7.5 mA	Boost pin increases switching frequency	16-pin SOIC, 8-pin PDIP
Regulated Charge Pumps										
MCP1256	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, power good signal and sleep mode	10-pin MSOP and 10-pin 3 × 3 DFN
MCP1257	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, low battery warning signal, and sleep mode	10-pin MSOP and 10-pin 3 × 3 DFN
MCP1258	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, power good signal and bypass mode	10-pin MSOP and 10-pin 3 × 3 DFN
MCP1259	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, low battery warning signal, and bypass mode	10-pin MSOP and 10-pin 3 × 3 DFN
MCP1252	Regulated	2.0 to 5.5	3.3, 5.0, or adjustable	150	650	60	N/A	81% at 10 mA	Shutdown, power good, regulated output, adjustable version	8-pin MSOP
MCP1253	Regulated	2.0 to 5.5	3.3, 5.0, or adjustable	150	1000	60	N/A	81% at 10 mA	Shutdown, power good, regulated output, adjustable version	8-pin MSOP

POWER MANAGEMENT: CPU/System Supervisors

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	VCC Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)	Typical Supply Current (µA)	Packages
MCP100	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Push-Pull	350	45	3-pin SOT-23, 3-pin TO-92
MCP101	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active High	Push-Pull	350	45	3-pin SOT-23, 3-pin TO-92
MCP102	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	120	1	3-pin SC-70, 3-pin SOT-23, 8-pin SOIC 150 mil, 3-pin TO-92
MCP103	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	120	1	3-pin SC-70, 3-pin SOT-23
MCP120	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Open-Drain	350	45	3-pin SOT-23, 8-pin SOIC 150 mil, 3-pin TO-92
MCP121	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	120	1	3-pin SC-70, 3-pin SOT-23, 8-pin SOIC 150 mil, 3-pin TO-92
MCP130	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Open-Drain	350	45	3-pin SOT-23, 8-pin SOIC 150 mil, 3-pin TO-92
MCP131	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	120	1	3-pin SC-70, 3-pin SOT-23, 8-pin SOIC 150 mil, 3-pin TO-92
MCP1316	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low	Push-Pull	200	1	5-pin SOT-23
MCP1316M	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low	Open-Drain	200	1	5-pin SOT-23
MCP1317	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active High	Push-Pull	200	1	5-pin SOT-23
MCP1318	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200	1	5-pin SOT-23

POWER MANAGEMENT: CPU/System Supervisors (Continued)

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	Vcc Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)	Typical Supply Current (µA)	Packages
MCP1318M	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200	1	5-pin SOT-23
MCP1319	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200	1	5-pin SOT-23
MCP1319M	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200	1	5-pin SOT-23
MCP1320	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low	Open-Drain	200	1	5-pin SOT-23
MCP1321	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200	1	5-pin SOT-23
MCP1322	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200	1	5-pin SOT-23
MCP809	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3.0, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Push-Pull	350	45	3-pin SOT-23
MCP810	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3.0, 3.15, 4.5, 4.6, 4.75, 4.85	Active High	Push-Pull	350	45	3-pin SOT-23
TC1232	Supervisor	✓	✓	–	–40 to +85	4.5–5.5	4.5, 4.75	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	610	50	8-pin PDIP, 16-pin SOIC 300 mil, 8-pin SOIC 150 mil
TC1270A	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	280	7	4-pin SOT-143, 5-pin SOT-23
TC1270AN	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	280	7	4-pin SOT-143, 5-pin SOT-23
TC1271A	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active High	Push-Pull	280	7	4-pin SOT-143, 5-pin SOT-23
TC1272A	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active Low	Push-Pull	140	12	3-pin SOT-23
TC32M	Supervisor	✓	–	–	–40 to +85	4.5–5.5	4.25	Active Low	Open-Drain	500	50	3-pin TO-92, 3-pin SOT-223
TCM809	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active Low	Push-Pull	140	12	3-pin SC-70, 3-pin SOT-23
TCM810	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active High	Push-Pull	140	12	3-pin SC-70, 3-pin SOT-23
MIC705	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	4.65	Active Low	Push-Pull	140	30	8-pin SOIC
MIC706	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	4.4	Active Low	Push-Pull	140	30	8-pin SOIC
MIC707	Supervisor	–	–	✓	–40 to +85	1.5–5.5	4.65	Active Low/High or High/Low	Push-Pull	140	30	8-pin SOIC
MIC708	Supervisor	–	–	✓	–40 to +85	1.5–5.5	4.4	Active Low/High or High/Low	Push-Pull	140	30	8-pin SOIC
MIC803	Supervisor	–	–	–	–40 to +125	1.0–5.5	2.63, 2.93, 3.00, 3.08, 4.00, 4.10, 4.38, 4.63	Active Low	Open-Drain	20/140/1100	5	3-pin SOT23, 3-pin SC70
MIC809	Supervisor	–	–	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low	Push-Pull	140	5	3-pin SOT23, 3-pin SC70
MIC809-5	Supervisor	–	✓	–	–40 to +125	1.4–5.5	2.93	Active Low	Push-Pull	30	0	3-pin SOT23, 3-pin SC70
MIC810	Supervisor	–	–	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low/High or High/Low	Push-Pull	140	5	3-pin SOT23, 3-pin SC70
MIC811	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low	Push-Pull	140	5	SOT143
MIC812	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low/High or High/Low	Push-Pull	140	5	SOT143
MIC1810	Supervisor	–	–	–	–40 to +85	1.5–5.5	4.12, 4.37, 4.62	Active Low	Push-Pull	100	5	3-pin SOT23
MIC1815	Supervisor	–	–	–	–40 to +85	1.5–5.5	2.55, 2.88	Active Low	Push-Pull	100	5	3-pin SOT23
MIC1232	Supervisor	✓	–	–	–40 to +85	4.5–5.5	4.37, 4.62	Active Low/High or High/Low	Push-Pull	250	18	8-pin SOIC, 8-pin PDIP
MIC1832	Supervisor	✓	✓	–	–40 to +85	1.4–5.5	2.55, 2.88	Active Low/High or High/Low	Push-Pull	250	15	8-pin SOIC, 8-pin PDIP
MIC2755	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.24	Active Low	Open-Drain	700	2	8-pin MSOP
MIC2775	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low/High or High/Low	Push-Pull	140	5	5-pin SOT23
MIC2776N	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active Low	Open-Drain	140	3	5-pin SOT23

POWER MANAGEMENT: CPU/System Supervisors (Continued)

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	Vcc Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)	Typical Supply Current (µA)	Packages
MIC2776H	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active High	Push-Pull	140	3	5-pin SOT23
MIC2776L	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active Low	Push-Pull	140	3	5-pin SOT23
MIC2778	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active Low	Open-Drain	140	1	5-pin SOT23
MIC2779H	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active High	Push-Pull	140	1	5-pin SOT23
MIC2779L	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active Low	Push-Pull	140	1	5-pin SOT23
MIC2785	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.62	Active Low	Push-Pull	0.025	5	6-pin 1.2 × 1.2 QFN
MIC6315	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.00, 3.08, 4.00, 4.10, 4.38, 4.63	Active Low	Open-Drain	20/140/1100	5	4-pin SOT143
MIC8114	Supervisor	–	✓	–	–40 to +85	1.0–5.5	3.08	Active Low	Push-Pull	790	5	4-pin SOT143
MIC8115	Supervisor	–	✓	–	–40 to +85	1.0–5.5	3.08	Active Low	Push-Pull	1100	5	4-pin SOT143
MIC826	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	1.665, 2.188, 2.315, 2.625, 2.925, 3.075, 4.375, 4.625	Active Low/High or High/Low	Push-Pull	140	4	6-pin 1.6 × 1.6 DFN
MIC706P/R/S/T	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	2.63, 2.93, 3.08	Active Low	Push-Pull	140	30	8-pin SOIC
MIC708P/R/S/T	Supervisor	–	–	✓	–40 to +85	1.5–5.5	2.63, 2.93, 3.08	Active Low/High or High/Low	Push-Pull	140	30	8-pin SOIC
TC51	Detector	–	–	–	–40 to +85	0.7–10	2.94, 2.65, 2.16 (1.6-6V)	Active Low	Open-Drain	50	2	3-pin SOT-23A
TC54	Detector	–	–	–	–40 to +85	0.7–10	4.21, 4.12, 2.94, 2.84, 2.65, 2.06, 1.37 (1.4-6V)	Active Low	CMOS Push-Pull or Open drain	0	1	3-pin SOT-89, 3-pin TO-92, 5-pin SOT-23, 3-pin SOT-23A
MCP111	Detector	–	–	–	–40 to +125	1.0–5.5	1.87(Itemp), 2.29, 2.59, 2.86, 2.87, 3.03, 4.31, 4.56	Active Low	Open-Drain	0	1	3-pin SC-70, 3-pin SOT-89, 3-pin SOT-23, 3-pin TO-92
MCP112	Detector	–	–	–	–40 to +125	1.0–5.5	1.87(Itemp), 2.29, 2.59, 2.86, 2.87, 3.03, 4.31, 4.56	Active Low	Push-Pull	0	1	3-pin SC-70, 3-pin SOT-89, 8-pin PDIP, 3-pin SOT-23, 3-pin TO-92
TC52	Detector	–	–	–	–40 to +85	1.5–10	4.41, 2.65 (1.5-5V)	Active Low	Open-Drain	0	3	5-pin SOT-23
TC53	Detector	–	–	–	–40 to +85	1.5–10	2.84, 2.65, 2.16 (1.6-6V, 7V)	Active Low	CMOS Push-Pull or Open drain	0	2	5-pin SOT-23
MIC2772	Dual	–	✓	–	–40 to +85	1.0–5.5	2.93, 3.08, 4.38, 4.63	Active Low	Open-Drain	20/140/1100	10	8-pin 2 × 2 MLF
MIC2774N	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low	Open-Drain	140	3.5	5-pin SOT23
MIC2774H	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active High	Push-Pull	140	3.5	5-pin SOT23
MIC2774L	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low	Push-Pull	140	3.5	5-pin SOT23
MIC2777	Dual	–	–	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67,2.81, 2.93, 3.09, 4.43, 4.68	Active Low/High or High/Low	Push-Pull	140	3.5	5-pin SOT23
MIC2782	Push Button	–	Dual	–	–40 to +85	1.5–5.5	Custom options	Active Low	Open-Drain	500/1000/2000	2.2	6-pin 0.8 × 1.2 CSP
MIC2790	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05	40	8-pin 2 × 2 DFN
MIC2791	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05	40	6-pin 1.6 × 1.6 DFN
MIC2793	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05	40	8-pin 2 × 2 DFN

POWER MANAGEMENT: Power MOSFET Drivers

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	Packages
Low-Side Power MOSFET Drivers										
MCP1401	Single	Inverting	0.5/0.5	18	12/10	35/35	19/15	470 pF in 19 ns	Small footprint	5-pin SOT-23
MCP1402	Single	Non-inverting	0.5/0.5	18	12/10	35/35	19/15	470 pF in 19 ns	Small footprint	5-pin SOT-23
MCP14A0051	Single	Inverting	0.5/0.5	18	12.5/7.5	33/24	40/28	1000 pF in 40 ns	Enable pin, small footprint	6-pin SOT-23, 6-pin 2 × 2 DFN
MCP14A0052	Single	Non-inverting	0.5/0.5	18	12.5/7.5	33/24	40/28	1000 pF in 40 ns	Enable pin, small footprint	6-pin SOT-23, 6-pin 2 × 2 DFN
TC1410N	Single	Non-inverting	0.5/0.5	16	16/16	30/30	25/25	500 pF in 25 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP
TC1411N	Single	Non-inverting	1.0/1.0	16	8/8	30/30	25/25	1000 pF in 25 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP
MIC4416	Single	Non-Inverting	1.2/1.2	18	3.5/3.5	33/23	14/16	1000 pF in 16 ns		SOT-143
MIC4417	Single	Inverting	1.2/1.2	18	3.5/3.5	33/23	14/16	1000 pF in 16 ns		SOT-143
TC1426	Dual	Inverting	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOIC, 8-pin PDIP
TC1427	Dual	Non-inverting	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOIC, 8-pin PDIP
TC1428	Dual	Complimentary	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOIC, 8-pin PDIP
MIC4467	Quad	Inverting	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to –5V	16-pin WSOIC, 14-pin PDIP, 100 pF in 19 ns
MIC4468	Quad	Non-inverting	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to –5V	16-pin WSOIC, 14-pin PDIP, 100 pF in 19 ns
MIC4469	Quad	Complimentary	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to –5V. SMD	16-pin WSOIC, 14-pin PDIP, 100 pF in 19 ns
TC4467	Quad	Inverting	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SOIC, 14-pin PDIP
TC4468	Quad	Non-inverting	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SOIC, 14-pin PDIP
TC4469	Quad	Complimentary	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SOIC, 14-pin PDIP
MCP14A0151	Single	Inverting	1.5/1.5	18	4.5/3	33/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	6-pin SOT-23, 6-pin 2 × 2 DFN
MCP14A0152	Single	Non-inverting	1.5/1.5	18	4.5/3	33/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	6-pin SOT-23, 6-pin 2 × 2 DFN
MCP1415	Single	Inverting	1.5/1.5	18	6/4	44/47	18/21	470 pF in 13 ns	Small footprint	5-pin SOT-23
MCP1416	Single	Non-inverting	1.5/1.5	18	6/4	44/47	18/21	470 pF in 13 ns	Small footprint	5-pin SOT-23
MIC4414	Single	Non-inverting	1.5/1.5	18	3.5/3.5	44/47	18/21	1000 pF in 12 ns	Very small footprint	1.2 × 1.2 QFN
MIC4415	Single	Inverting	1.5/1.5	18	3.5/3.5	29/30	12/12	1000 pF in 12 ns	Very small footprint	1.2 × 1.2 QFN
TC4626	Single	Inverting	1.5/1.5	6	10/8	29/30	33/27	1000 pF in 40 ns	Boosted drive voltage	16-pin SOIC, 8-pin PDIP
TC4627	Single	Non-inverting	1.5/1.5	6	10/8	35/45	33/27	1000 pF in 40 ns	Boosted drive voltage	16-pin SOIC, 8-pin PDIP
TC4404	Single	Inverting	1.5/1.5	18	7/7	15/32	25/25	1000 pF in 30 ns	Open - drain	8-pin SOIC, 8-pin PDIP
TC4405	Single	Non-inverting	1.5/1.5	18	7/7	15/32	25/25	1000 pF in 30 ns	Open - drain	8-pin SOIC, 8-pin PDIP
MCP14A0153	Dual	Inverting	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP14A0154	Dual	Non-inverting	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP14A0155	Dual	Complimentary	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
TC4426A	Dual	Inverting	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 8-pin 6 × 5 DFN-S
TC4427A	Dual	Non-inverting	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 8-pin 6 × 5 DFN-S
TC4428A	Dual	Complimentary	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 8-pin 6 × 5 DFN-S
MIC4426	Dual	Inverting	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 8-pin CerDIP
MIC4427	Dual	Non-inverting	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 8-pin CerDIP
MIC4428	Dual	Complimentary	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 8-pin CerDIP
MIC4126	Dual	Inverting	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSOIC, 8-pin eMSOP-8, 3 × 3 DFU

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	Packages
Low-Side Power MOSFET Drivers (Continued)										
MIC4127	Dual	Non-inverting	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSOIC, 8-pin eMSOP-8, 3 × 3 DFN
MIC4128	Dual	Complimentary	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSOIC, 8-pin eMSOP-8, 3 × 3 DFN
MCP14E6	Dual	Inverting	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E7	Dual	Non-inverting	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E8	Dual	Complimentary	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
TC1412	Single	Inverting	2.0/2.0	16	4/4	35/35	18/18	1000 pF in 18 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP
TC1412N	Single	Non-Inverting	2.0/2.0	16	4/4	35/35	18/18	1000 pF in 18 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP
MIC4478	Dual	Non-Inverting	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin SOIC
MIC4479	Dual	Inverting	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin SOIC
MIC4480	Dual	Complimentary	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin SOIC
TC4423A	Dual	Inverting	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin SOIC, 16-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
TC4424A	Dual	Non-Inverting	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin SOIC, 16-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
TC4425A	Dual	Complimentary	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin SOIC, 16-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E9	Dual	Inverting	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E10	Dual	Non-Inverting	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E11	Dual	Complimentary	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable Pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14A0301	Single	Interverting	3.0/3.0	18	2.2/1.5	15/18	13/12	1,800 pF in 13 ns	Low Input Threshold, Enable Pin	8-pin MSOP, 8-pin SOIC, 8-pin 2 × 2 WDFN
MCP14A0302	Single	Non-Inverting	3.0/3.0	18	2.2/1.5	15/18	13/12	1,800 pF in 13 ns	Low Input Threshold and Enable Pin	8-pin MSOP, 8-pin SOIC, 8-pin 2 × 2 WDFN
TC1413N	Single	Non-Inverting	3.0/3.0	16	2.7/2.7	35/35	20/20	1800 pF in 20 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP
MIC4123	Dual	Inverting	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin eSOIC, 4 × 4
MIC4124	Dual	Non-Inverting	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin eSOIC, 4 × 4
MIC4125	Dual	Complimentary	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin eSOIC, 4 × 4
MIC4423	Dual	Inverting	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin SOIC, 16-pin WSOIC, 8-pin PDIP
MIC4424	Dual	Non-Inverting	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin SOIC, 16-pin WSOIC, 8-pin PDIP, 8-pin CerDIP
MIC4425	Dual	Complimentary	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin SOIC, 16-pin WSOIC, 8-pin PDIP
MIC4223	Dual	Inverting	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin eMSOP
MIC4224	Dual	Non-Inverting	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin eMSOP
MIC4225	Dual	Complimentary	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin eMSOP
MCP14E3	Dual	Inverting	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E4	Dual	Non-Inverting	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14E5	Dual	Complimentary	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP1403	Dual	Inverting	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin SOIC, 16-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP1404	Dual	Non-Inverting	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin SOIC, 16-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP1405	Dual	Complimentary	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin SOIC, 16-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14A0451	Single	Inverting	4.5/4.5	18	1.6/1.2	16/19	9/9	2200 pF in 9.5 ns	Low Input Threshold, Enable	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 2 DFN
MCP14A0452	Single	Non-Inverting	4.5/4.5	18	1.6/1.2	16/19	9/9	2200 pF in 9.5 ns	Low Input Threshold, Enable	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 2 DFN
MIC4120	Single	Non-Inverting	6.0/6.0	20	5/5	45/50	12/13	2200 pF in 12 ns		8-pin eSOIC, 3 × 3
MIC4129	Single	Inverting	6.0/6.0	20	5/5	45/50	12/13	2200 pF in 12 ns		8-pin eSOIC, 3 × 3

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	Packages
Low-Side Power MOSFET Drivers (Continued)										
MIC4420	Single	Non-Inverting	6.0/6.0	18	2.8/2.5	18/48	12/13	2200 pF in 12 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 5-pin TO-220, 8-pin CerDIP
MIC4429	Single	Inverting	6.0/6.0	18	2.8/2.5	18/48	12/13	2200 pF in 12 ns		8-pin SOIC, 8-pin MSOP, 8-pin PDIP, 5-pin TO-220
MIC44F18	Single	Non-Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF In 10 ns	Enable pin	8-pin eMSOP, 2 × 2 QFN
MIC44F19	Single	Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF In 10 ns	Enable pin	8-pin eMSOP, 2 × 2 QFN
MIC44F20	Single	Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF In 10 ns	Enable pin	8-pin eMSOP, 2 × 2 QFN
MCP1406	Single	Inverting	6.0/6.0	18	2.1/1.5	40/40	20/20	2500 pF in 20 ns		8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP1407	Single	Non-Inverting	6.0/6.0	18	2.1/1.5	40/40	20/20	2500 pF in 20 ns		8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MCP14A0601	Single	Inverting	6.0/6.0	18	2.0/2.3	29/29	15/15	2500 pF in 10 ns	Low Logic Input, Enable	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP14A0602	Single	Non-Inverting	6.0/6.0	18	2.0/2.3	29/29	15/15	2500 pF in 10 ns	Low Logic Input, Enable	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
TC4421A	Single	Inverting	9.0/9.0	18	1.25/0.8	38/42	28/26	4700 pF in 15 ns		8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
TC4422A	Single	Non-Inverting	9.0 / 9.0	18	1.25 / 0.8	38/42	28/26	4700 pF in 15 ns		8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
MIC4421A	Single	Inverting	9.0 / 9.0	18	0.8/0.6	15/35	20/24	10,000 pF in 24 ns		8-pin PDIP, 8-pin SOIC, 5-pin TO-220
MIC4422A	Single	Non-Inverting	9.0 / 9.0	18	0.8/0.6	15/35	20/24	10,000 pF in 24 ns		8-pin PDIP, 8-pin SOIC, 5-pin TO-220
MIC4451	Single	Inverting	12.0/12.0	18	0.8/0.6	25/40	20/24	10,000 pF in 24 ns		8-pin PDIP, 8-pin SOIC, 5-pin TO-220
MIC4452	Single	Non-Inverting	12.0/12.0	18	0.8/0.6	25/40	20/24	10,000 pF in 24 ns		8-pin PDIP, 8-pin SOIC, 5-pin TO-220
TC4451	Single	Inverting	12.0/12.0	18	1.0/0.9	44/44	30/32	10,000 pF in 21 ns		8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
TC4452	Single	Non-Inverting	12.0/12.0	18	1.0/0.9	44/44	30/32	10,000 pF in 21 ns		8-pin SOIC, 8-pin PDIP, 8-pin 6 × 5 DFN
High-Side Power MOSFET Drivers										
TC4431	High-Side Single	Inverting	3.0/1.5	30	7/7	62/78	25/33	1000 pF in 25 ns	30V, high-side driver	8-pin SOIC, 8-pin PDIP
TC4432	High-Side Single	Non-inverting	3.0/1.5	30	7/7	62/78	25/33	1000 pF in 25 ns	30V, high-side driver	8-pin SOIC, 8-pin PDIP
TC4403	Floating Load Driver	Non-inverting	1.5/1.5	18	2.8/3.5	33/38	28/32	1800 pF in 25 ns	Floating load driver	8-pin PDIP
MIC5011	High-Side or Low Side Single	Non-Inverting	950 µA*	32	N/A	N/A	25 µs/4 µs	1000 pF in 60 µs	Less than 1 µA in Standby Mode	8-pin SOIC, 8-pin PDIP
MIC5013	High-Side or Low Side Single	Non-Inverting	225 µA*	32	N/A	N/A	60 µs/4 µs	1000 pF in 60µs	With over-current shutdown and a fault flag	8-pin SOIC, 8-pin PDIP
MIC5014	High-Side or Low Side Single	Non-Inverting	800 µA*	30	N/A	N/A	90 µs/6 µs	1000 pF in 90 µs	Withstands 60V transient and Reverse battery protected to –20V	8-pin SOIC, 8-pin PDIP
MIC5015	High-Side or Low Side Single	Inverting	800 µA*	30	N/A	N/A	90 µs/6 µs	1000 pF in 90 µs	Withstands 60V transient and Reverse battery protected to –20V	8-pin SOIC, 8-pin PDIP
MIC5018	High-Side or Low Side Single	Non-Inverting	10 µA*	9	N/A	N/A	750 µs/10 µs	3,000 pF in 2.1 ms	Small Package	SOT-143
MIC5019	High-Side or Low Side Single	Non-Inverting	10 µA*	9	N/A	N/A	440 µs/5.56 µs	3,000 pF in 1.34 ms	Ultra Small 1.2 × 1.2 mm DFN	4-pin DFN
MIC5021	High-Side or Low Side Single	Non-Inverting	5600 µA*	36	N/A	500/800	400ns/400ns	2,000 pF in 550 ns	100 kHz operation guaranteed over full temperature and operating voltage range	8-pin SOIC, 8-pin PDIP
MIC5060	High-Side or Low Side Single	Non-Inverting	800 µA*	30	N/A	N/A	90 µs/6 µs	1,000 pF in 90 µs	Withstands 60V transient and Reverse battery protected to –20V	8-pin MLF

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	Packages
Synchronous Power MOSFET Drivers										
MCP14628	Half Bridge Driver	Dual Inputs	2.0/3.5	5.5 (36V Boot Pin)	1/1 (0.5 on low side)	15/22	10/10	3300 pF in 10 ns	Continuous or discontinuous operation	8-pin SOIC, 8-pin 3 × 3 DFN
MCP14700	Half Bridge Driver	Dual Inputs	2.0/3.5	5.5 (36V Boot Pin)	1/1 (0.5 on low side)	15/22	10/10	3300 pF in 10 ns	Allows external dead time control	8-pin SOIC, 8-pin 3 × 3 DFN
MIC4100	Half Bridge Driver	Dual Inputs	2.0/2.0	16 (100V Boot Pin)	3.0/3.0	27/27	10/10	1000 pF in 10 ns		8-pin SOIC
MIC4101	Half Bridge Driver	Dual Inputs	2.0/2.0	16 (100V Boot Pin)	3.0/3.0	31/31	10/10	1000 pF in 10 ns		8-pin SOIC
MIC4102	Half Bridge Driver	Single PWM	3.0/2.0	16 (100V Boot Pin)	2.5/1.5	60/70	10/6	1000 pF in 10 ns	Adaptive Dead Time and Anti-Shoot-Through Circuitry	8-pin SOIC
MIC4103	Half Bridge Driver	Dual Inputs	3.0/2.0	16 (100V Boot Pin)	2.5/1.25	24/24	10/6	1000 pF in 10 ns		8-pin SOIC
MIC4104	Half Bridge Driver	Dual Inputs	3.0/2.0	16 (100V Boot Pin)	2.5/1.25	24/24	10/6	1000 pF in 10 ns		8-pin SOIC
MIC4600	Half Bridge Driver	Dual Inputs, Single PWM	–	28V	–	–	15/13.5	3000 pF in 15 ns	Internal 5V LDO	3 × 3 QFN
MIC4604	Half Bridge Driver	Dual Inputs	1.0/1.0	16V (85V Boot Pin)	–	33/34	20/20	1000 pF in 20 ns	Small 2.5 × 2.5 mm DFN	8-pin SOIC, 8-pin 2.5 × 2.5 DFN
MIC4605	Half Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Time and Anti-Shoot-Through Circuitry	8-pin SOIC, 8-pin 2.5 × 2.5 DFN
MIC4606	Full Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Time and Anti-Shoot-Through Circuitry	4 × 4 QFN
MIC4607	3 Phase Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Time and Anti-Shoot-Through Circuitry	4 × 5 QFN, 24-pin TSSOP
MIC4608	Half Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	20V (600V Boot Pin)	–	450/450	31/31	–	600V Operation, State PIN	14-pin SOIC
MIC4609	3 Phase Driver	Dual Inputs	1.0/1.0	20V (600V Boot Pin)	–	600/550	22/20	–	600V Operation	28-wide SOIC

*Charge pump current

POWER MANAGEMENT: Battery Chargers

Part #	Mode	Cell Type	# of Cells	Vcc Range (V)	Cell Voltage (V)	Maximum Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features	Packages
MCP73113	Linear	Li-ion/Li-Polymer	1	4 to 16	4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	6.5V Overvoltage Protection	10-pin 3 × 3 DFN
MCP73114	Linear	Li-ion/Li-Polymer	1	4 to 16	4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	5.8V Overvoltage Protection	10-pin 3 × 3 DFN
MCP73123	Linear	LiFePO4	1	4 to 16	3.6	1100	±0.5	Int	6.5V Overvoltage Protection, LiFePO4 charging	10-pin 3 × 3 DFN
MCP73213	Linear	Li-ion/Li-Polymer	2	4 to 16	8.2, 8.4, 8.7, 8.8	1100	±0.6	Int	13V Overvoltage Protection	10-pin 3 × 3 DFN
MCP73223	Linear	LiFePO4	2	4 to 16	7.2	1100	±0.6	Int	13V Overvoltage Protection, LiFePO4 charging	10-pin 3 × 3 DFN
MCP73826	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Small size, charge current set by external FET	6-pin SOT-23
MCP73827	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Mode indicator, Charge current monitor, Charge current set by external FET	8-pin MSOP
MCP73828	Linear	Li-Ion/Li Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Temperature monitor, Charge current set by external FET	8-pin MSOP
MCP73841	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge current set by external FET	10-pin MSOP
MCP73841	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge current set by external FET	10-pin MSOP
MCP73842	Linear	Li-Ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge current set by external FET	10-pin MSOP

POWER MANAGEMENT: Battery Chargers (Continued)

Part #	Mode	Cell Type	# of Cells	Vcc Range (V)	Cell Voltage (V)	Maximum Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features	Packages
MCP73843	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Charge current set by external FET	8-pin MSOP
MCP73844	Linear	Li-Ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Charge current set by external FET	8-pin MSOP
MCP73811	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Selectable charge current (100 mA, 500 mA), Charge enable input	5-pin SOT-23
MCP73812	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Programmable charge current (100 mA, 500 mA), Charge enable input	5-pin SOT-23
MCP73830/L	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.2	1000/200	±0.75	Int	Soft-start, Charge enable pin	6-pin 2 × 2 TDFN
MCP73831	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge current, Tri-state STAT pin	5-pin SOT-23, 8-pin 2 × 3 DFN
MCP73832	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge current, Open-drain STAT pin	5-pin SOT-23, 8-pin 2 × 3 DFN
MCP73853	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Temperature monitor, Thermal regulation	16-pin 4 × 4 QFN
MCP73855	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Thermal regulation	10-pin 3 × 3 DFN
MCP73833	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Test mode, Multiple V_{REG} outputs, Safety timer, Power good output	10-pin 3 × 3 DFN, 10-pin MSOP
MCP73834	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Test mode, Multiple V_{REG} outputs, Safety timer, Timer enable input	10-pin 3 × 3 DFN, 10-pin MSOP
MCP73837	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switching, UVLO, Thermal regulation, Thermistor input, Power good output	10-pin 3 × 3 DFN, 10-pin MSOP
MCP73838	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switching, UVLO, Thermal regulation, Timer enable input	10-pin 3 × 3 DFN, 10-pin MSOP
MCP73871	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.1, 4.2, 4.35, 4.4	1500 (A/C Adapter) 500 (USB)	±0.5	Int	Simultaneous charging of load and battery, Load-dependent charging, Multiple programmable charge currents	20-pin 4 × 4 QFN, 20-pin SSOP

POWER MANAGEMENT: Hot Swap Controllers & E-Fuse

Part #	Number of Outputs	Input Voltage Range (V)	Latch Off	Auto Retry	OVLO	UVLO	Number of Power Good	Description	Packages
MIC2085	1	+2.3 to +16.5	✓	–	Adjustable	Adjustable	–	Pin-Pin equivalent to LTC1642	16-pin QSOP
MIC2582	1	+2.3 to +13.2	✓	–	–	Adjustable	–	Pin-Pin equivalent to LTC1422, dual-level fault detection	8-pin SOIC
MIC2583	1	+2.3 to +13.2	✓	–	–	Adjustable	1 Active High	Dual level fault detection, CL discharge capability	16-pin QSOP
MIC2583R	1	+2.3 to +13.2	–	✓	–	Adjustable	1 Active High	Dual level fault detection, CL discharge capability	16-pin QSOP
MIC2584	2	Ch 1: +2.3 to +13.2 Ch 2: +1.0 to +13.2	✓	–	Adjustable	Adjustable	2 Active High	Output voltage tracking with dual-level fault tracking	16-pin TSSOP
MIC2587	1	+10 to +80	✓	–	–	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1641-1	8-pin SOIC
MIC2587R	1	+10 to +80	–	✓	–	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1641-2	8-pin SOIC
MIC2588	1	–19 to –80	✓	–	Adjustable	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1640, LT1640A, LT4250	8-pin SOIC
MIC2594	1	–19 to –80	✓	–	Adjustable	Adjustable	1 Active High/Low	MIC2588 with programmable UVLO hysteresis	8-pin SOIC
MIC2595	1	–19 to –80	✓	–	Adjustable	Adjustable	3 Active High/Low	Staggered power good provides load sequencing, programmable UVLO hysteresis	14-pin SOIC
MIC2595R	1	–19 to –80	–	✓	Adjustable	Adjustable	3 Active High/Low	Staggered power good provides load sequencing, programmable UVLO hysteresis	14-pin SOIC
LX8204	1	10.8 to 13.2	✓	–	-	Fixed	-	3.5A 12V E-Fuse with Hot-Swap and Voltage Surge Protection	10-pin 3 x 3 DFN
LX8233	1	4.2 to 5.75	✓	–	-	Fixed	-	2.5A 5V E-Fuse with Bidirectional Protection Switch and DevSleep/Disable Mode	13-pin 2 x 3 VQFN
LX8237	2	4.3 to 13.2	✓	–	-	Fixed	-	Dual E-Fuse for 12V and 5V, Dual Power Regulators, I2C Control and Curent Monitoring, P3 Disable	24-pin 3.5 x 4.5 QFN
LX8247	2	4.3 to 13.2	✓	–	-	Fixed	-	Dual E-Fuse for 12V and 5V, I2C Control and Curent Monitoring, P3 Disable	16-pin 3 x 3 QFN

POWER MANAGEMENT: Power Switches

Part #	Description	USB Port Power Switch (55 mΩ)	High-Speed USB 2.0 Switch	Battery Charger Emulation Profile	8 Resistor Set Current Limits	Charging Indicator Output	Attach Detection Output	Current Measurement	Power Allocation	Interface	Packages
USB Port Power Controllers											
UCS1001-1	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	✓	–	–	–	Discrete I/O	20-pin 4 × 4 QFN
UCS1001-2	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	–	✓	–	–	Discrete I/O	20-pin 4 × 4 QFN
UCS1001-3	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	✓	–	–	–	Discrete I/O	20-pin 4 × 4 QFN
UCS1001-4	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	–	✓	–	–	Discrete I/O	20-pin 4 × 4 QFN
UCS1002-1	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 2.4A	✓	–	✓	✓	I2C/SMBus	20-pin 4 × 4 QFN
UCS1002-2	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 2.4A	✓	–	✓	✓	I²C/SMBus	20-pin 4 × 4 QFN
UCS1003-1	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 3A	–	✓	✓	✓	I²C/SMBus	20-pin 4 × 4 QFN
UCS1003-2	Programmable USB Port Power Controller with Charger Emulation	1	1	9	Up to 3A	✓	–	–	–	Discrete I/O	20-pin 4 × 4 QFN
UCS1003-3	Programmable USB Port Power Controller with Charger Emulation	1	1	9	Up to 3A	–	✓	–	–	Discrete I/O	20-pin 4 × 4 QFN
UCS81003	Programmable USB Port Power Controller Automotive	1	1	9 + 1 programmable	Up to 3A	–	✓	✓	✓	I²C/SMBus	28-pin 5 × 5 QFN

Current Limit USB Protection Switches													
Part #	**Channels**	**V_{IN} Range (V)**	**Fixed Current Limit (Min.)**	**Adj. Current Limit (Max.)**	**$R_{DS(ON)}$ (mΩ)**	**Current Limited/ Latched**	**Reverse Blocking**	**Enable Logic**	**ULVO**	**Thermal Protection**	**Fault Flag**	**Current Measurement**	**Packages**
UCS2114	Dual	2.9–5.5	3.0A	3.4A	18	✓	✓	Active Low, Active High	✓	✓	✓	✓	20-pin 3 × 3 QFN
UCS2113	Dual	2.9–5.5	3.0A	3.4A	40	✓	✓	Active Low, Active High	✓	✓	✓	✓	20-pin 4 × 4 QFN
UCS2112	Dual	2.9–5.5	3.0A	3.4A	40	✓	✓	Active Low, Active High	✓	✓	✓	✓	20-pin 4 × 4 QFN
MIC2003/13	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	–	✓	✓	–	–	5-pin SOT23, 2 × 2
MIC2004/14	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active High	✓	✓	–	–	5-pin SOT23, 2 × 2
MIC2005/15	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active High	✓	✓	✓	–	5-pin SOT23, 6-pin SOT23, 2 × 2
MIC2005A	Single	2.5–5.5	500 mA	–	170	✓	–	Active Low, Active High	✓	✓	✓	–	5-pin SOT23, 6-pin SOT23
MIC2009A	Single	2.5–5.5	–	900 mA	170	✓	–	Active Low, Active High	✓	✓	–	–	6-pin SOT23
MIC2005L	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active Low	✓	✓	✓	–	5-pin SOT23
MIC2007/17	Single	2.5–5.5	–	2.0A	100	✓	–	Active High	✓	✓	–	–	6-pin SOT23, 2 × 2
MIC2008/18	Single	2.5–5.5	–	2.0A	70	✓	–	Active High	✓	✓	–	–	6-pin SOT23, 2 × 2
MIC2009/19	Single	2.5–5.5	–	2.0A	70	✓	–	Active High	✓	✓	✓	–	6-pin SOT23, 2 × 2
MIC2025-1	Single	2.7–5.5	500 mA	–	140	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2025-2	Single	2.7–5.5	500 mA	–	140	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2026-1	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC, 8-pin PDIP
MIC2026-2	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC, 8-pin PDIP

*Reduced Height Package

POWER MANAGEMENT: Power Switches (Continued)

Part #	Channels	V_{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	$R_{DS(ON)}$ (mΩ)	Current Limited/ Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag	Current Measurement	Packages
Current Limit USB Protection Switches (Continued)													
MIC2026A-1	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC
MIC2026A-2	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC
MIC2027-1	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active High	✓	✓	✓	–	16-pin SOIC, 16-pin WSOIC
MIC2027-2	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active Low	✓	✓	✓	–	16-pin SOIC, 16-pin WSOIC
MIC2033	Single	2.5–5.5	475 mA, 517 mA, 760 mA, 950 mA, 1.14A	–	125	✓	–	Active Low, Active High	✓	✓	✓	–	6-pin SOT-23, 6-pin DFN*
MIC2039	Single	2.5–5.5	–	2.5A	75	✓	–	Active Low, Active High	✓	✓	✓	–	6-pin SOT-23, 2 × 2*
MIC2040-1	Single	0.8–5.5	–	1.5A	75	✓	✓	Active High	✓	✓	✓	–	10-pin MSOP
MIC2040-2	Single	0.8–5.5	–	1.5A	75	✓	✓	Active Low	✓	✓	✓	–	10-pin MSOP
MIC2041-1	Single	0.8–5.5	–	1.5A	75	Latched	✓	Active High	✓	✓	✓	–	10-pin MSOP
MIC2041-2	Single	0.8–5.5	–	1.5A	75	Latched	✓	Active Low	✓	✓	✓	–	10-pin MSOP
MIC2042-1	Single	0.8–5.5	–	3.0A	60	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC, 14-pin TSSOP
MIC2042-2	Single	0.8–5.5	–	3.0A	60	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC, 14-pin TSSOP
MIC2043-1	Single	0.8–5.5	–	3.0A	60	Latched	✓	Active High	✓	✓	✓	–	8-pin SOIC, 14-pin TSSOP
MIC2043-2	Single	0.8–5.5	–	3.0A	60	Latched	✓	Active Low	✓	✓	✓	–	8-pin SOIC, 14-pin TSSOP
MIC2044-1	Single	0.8–5.5	–	6.0A	30	✓	✓	Active High	✓	✓	✓	–	16-pin TSSOP
MIC2044-2	Single	0.8–5.5	–	6.0A	30	✓	✓	Active Low	✓	✓	✓	–	16-pin TSSOP
MIC2045-1	Single	0.8–5.5	–	6.0A	30	Latched	✓	Active High	✓	✓	✓	–	16-pin TSSOP
MIC2045-2	Single	0.8–5.5	–	6.0A	30	Latched	✓	Active Low	✓	✓	✓	–	16-pin TSSOP
MIC2075-1	Single	2.7–5.5	500 mA	–	140	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2075-2	Single	2.7–5.5	500 mA	–	140	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2076-1	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC, 8-pin PDIP
MIC2076-2	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC, 8-pin PDIP
MIC2076A-1	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active High	✓	✓	✓	–	8-pin SOIC
MIC2076A-2	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active Low	✓	✓	✓	–	8-pin SOIC
MIC2077-1	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active High	✓	✓	✓	–	16-pin SOIC, 16-pin WSOIC
MIC2077-2	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active Low	✓	✓	✓	–	16-pin SOIC, 16-pin WSOIC
MIC2095-1	Single	2.5–5.5	500 mA	–	170	✓	✓	Active High	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2095-2	Single	2.5–5.5	500 mA	–	170	✓	✓	Active Low	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2097-1	Single	2.5–5.5	–	1.1A	170	✓	✓	Active High	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2097-2	Single	2.5–5.5	–	1.1A	170	✓	✓	Active Low	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2098-1	Single	2.5–5.5	900 mA	–	170	✓	✓	Active High	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2098-2	Single	2.5–5.5	900 mA	–	170	✓	✓	Active Low	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2099-1	Single	2.5–5.5	–	1.1A	170	✓	✓	Active High	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2099-2	Single	2.5–5.5	–	1.1A	170	✓	✓	Active Low	✓	✓	✓	–	16-pin 1.6 × 1.6 TMLF
MIC2505	Single	2.7–7.5	2.0A	–	30	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin PDIP
MIC2505-1	Single	2.7–7.5	2.0A	–	30	✓	✓	Active High	–	✓	✓	–	8-pin SOIC
MIC2505-2	Single	2.7–7.5	2.0A	–	30	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC

*Reduced Height Package

POWER MANAGEMENT: Power Switches (Continued)

Part #	Channels	V_{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	$R_{DS(ON)}$ (mΩ)	Current Limited/ Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag	Current Measurement	Packages
Current Limit USB Protection Switches (Continued)													
MIC2506	Dual	2.7–7.5	1.0A	–	75	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin PDIP
MIC2544-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2544-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2544A-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2544A-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2545A-1	Single	2.7–5.5	–	3.0A	35	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin PDIP, 14-pin TSSOP
MIC2545A-2	Single	2.7–5.5	–	3.0A	35	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC, 8-pin PDIP, 14-pin TSSOP
MIC2546-1	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓	–	16-pin SOIC, 16-pin TSSOP
MIC2546-2	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓	–	16-pin SOIC, 16-pin TSSOP
MIC2547-1	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓	–	16-pin SOIC, 16-pin TSSOP
MIC2547-2	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓	–	16-pin SOIC, 16-pin TSSOP
MIC2548-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2548-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2548A-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2548A-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC, 8-pin MSOP
MIC2549A-1	Single	2.7–5.5	–	3.0A	35	✓	✓	Active High	–	✓	✓	–	8-pin SOIC, 8-pin PDIP, 14-pin TSSOP
MIC2549A-2	Single	2.7–5.5	–	3.0A	35	✓	✓	Active Low	–	✓	✓	–	8-pin SOIC, 8-pin PDIP, 14-pin TSSOP

*Reduced Height Package

Load Switches

Part #	Channels	V_{IN} Range (V)	Max. Switch Current	$R_{DS(ON)}$ (mΩ)	Soft Start (µs)	Load Discharge (Ω)	Enable Logic	Input Pull-Up Resistor	Reverse Blocking	Packages
MIC94030	Single	2.7–13.5	1.0	750	–	–	Active Low	–	✓	4-pin SOT143
MIC94040	Single	1.7–5.5	3.0	28	–	–	Active High	–	–	4-pin 1.2 × 1.2 MLF
MIC94041	Single	1.7–5.5	3.0	28	–	250	Active High	–	–	4-pin 1.2 × 1.2 MLF
MIC94042	Single	1.7–5.5	3.0	28	100	–	Active High	–	–	4-pin 1.2 × 1.2 MLF
MIC94043	Single	1.7–5.5	3.0	28	–	250	Active High	–	–	4-pin 1.2 × 1.2 MLF
MIC94044	Single	1.7–5.5	3.0	28	900	–	Active High	–	–	4-pin 1.2 × 1.2 MLF
MIC94045	Single	1.7–5.5	3.0	28	900	200	Active High	–	–	4-pin 1.2 × 1.2 MLF
MIC94050	Single	1.8–5.5	1.8	125	–	–	Active Low	–	✓	4-pin SOT143
MIC94051	Single	1.8–5.5	1.8	125	–	–	Active Low	✓	✓	4-pin SOT143
MIC94052	Single	1.8–5.5	2.0	70	–	–	Active Low	–	–	6-pin SC70
MIC94053	Single	1.8–5.5	2.0	70	–	–	Active Low	✓	–	6-pin SC70
MIC94060	Single	1.7–5.5	2.0	77	–	–	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94061	Single	1.7–5.5	2.0	77	–	200	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94062	Single	1.7–5.5	2.0	77	800	–	Active High	–	–	6-pin SC70, 1.2 × 1.6

*Reduced Height Package

POWER MANAGEMENT: Power Switches (Continued)										
Part #	**Channels**	**V_{IN} Range (V)**	**Max. Switch Current**	**$R_{DS(ON)}$ (mΩ)**	**Soft Start (µs)**	**Load Discharge (Ω)**	**Enable Logic**	**Input Pull-Up Resistor**	**Reverse Blocking**	**Packages**
Load Switches (Continued)										
MIC94063	Single	1.7–5.5	2.0	77	800	200	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94064	Single	1.7–5.5	2.0	77	115	–	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94065	Single	1.7–5.5	2.0	77	115	200	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94070	Single	1.7–5.5	1.2	120	–	–	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94071	Single	1.7–5.5	1.2	120	–	200	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94072	Single	1.7–5.5	1.2	120	800	–	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94073	Single	1.7–5.5	1.2	120	800	200	Active High	–	–	6-pin SC70, 1.2 × 1.6
MIC94080	Single	1.7–5.5	2.0	67	–	–	Active High	–	–	4-pin 0.85 × 0.85 TMLF
MIC94081	Single	1.7–5.5	2.0	67	–	250	Active High	–	–	4-pin 0.85 × 0.85 TMLF
MIC94082	Single	1.7–5.5	2.0	67	800	–	Active High	–	–	4-pin 0.85 × 0.85 TMLF
MIC94083	Single	1.7–5.5	2.0	67	800	250	Active High	–	–	4-pin 0.85 × 0.85 TMLF
MIC94084	Single	1.7–5.5	2.0	67	120	–	Active High	–	–	4-pin 0.85 × 0.85 TMLF
MIC94085	Single	1.7–5.5	2.0	67	120	250	Active High	–	–	4-pin 0.85 × 0.85 TMLF
MIC94090	Single	1.7–5.5	1.2	130	–	–	Active High	–	–	6-pin SC70, 1.2 × 1.2
MIC94091	Single	1.7–5.5	1.2	130	–	250	Active High	–	–	6-pin SC70, 1.2 × 1.2
MIC94092	Single	1.7–5.5	1.2	130	790	–	Active High	–	–	6-pin SC70, 1.2 × 1.2
MIC94093	Single	1.7–5.5	1.2	130	790	250	Active High	–	–	6-pin SC70, 1.2 × 1.2
MIC94094	Single	1.7–5.5	1.2	130	120	–	Active High	–	–	6-pin SC70, 1.2 × 1.2
MIC94095	Single	1.7–5.5	1.2	130	120	250	Active High	–	–	6-pin SC70, 1.2 × 1.2
MIC94161	Single	1.7–5.5	3.0	15.5	2700	–	Active High	–	✓	1.5 × 1 WLCSP
MIC94162	Single	1.7–5.5	3.0	15.5	60	200	Active High	–	✓	1.5 × 1 WLCSP
MIC94163	Single	1.7–5.5	3.0	15.5	60	–	Active High	–	✓	1.5 × 1 WLCSP
MIC94164	Single	1.7–5.5	3.0	15.5	2700	200	Active High	–	✓	1.5 × 1 WLCSP
MIC94165	Single	1.7–5.5	3.0	15.5	2700	–	Active High	–	✓	1.5 × 1 WLCSP
MIC95410	Single	0.5–5.5	7.0	6.6	1100	2300	Active High	–	–	10-pin 1.2 × 2.0 QFN
MIC94066	Dual	1.7–5.5	2	85	–	–	Active High	–	–	8-pin 2 × 2 MLF
MIC94067	Dual	1.7–5.5	2	85	–	200	Active High	–	–	8-pin 2 × 2 MLF
MIC94068	Dual	1.7–5.5	2	85	800	–	Active High	–	–	8-pin 2 × 2 MLF
MIC94069	Dual	1.7–5.5	2	85	800	200	Active High	–	–	8-pin 2 × 2 MLF

*Reduced Height Package

DISPLAY AND LED DRIVERS

DISPLAY AND LED DRIVERS: Electroluminescent Backlight Drivers

Part #	Type	Input Voltage Low (V)	Input Voltage High (V)	Nominal Output Voltage (V)	Max. Switch Resistance (Ω)	Output Regulation	Max. Lamp Size per Device (in²)	Packages
16-Segment Drivers								
HV509	16-Segment Drivers	2	5.5	±50 to ±200	–	–	6.5	32-pin VQFN
HV528	16-Segment Drivers	1.7	5.5	±50 to ±200	–	–	6.5	32-pin VQFN
Offline Drivers								
HV809	Offline Driver	50	200	±50 to ±200	–	–	100	8-pin SOIC, 8-pin SOIC 150 mil
Single Lamp Drivers								
HV816	Single Lamp Driver	2.7	5.5	±180	–	Yes	42	16-pin QFN
HV823	Single Lamp Driver	2	9.5	±90	6	Yes	23	8-pin SOIC 150 mil
HV825	Single Lamp Driver	1	1.6	±56	15	No	3	8-pin MSOP, 8-pin SOIC 150 mil
HV830	Single Lamp Driver	2	9.5	±100	4	Yes	25	8-pin SOIC 150 mil
HV833	Single Lamp Driver	1.8	6.5	±90	4	Yes	12	8-pin MSOP
HV850	Single Inductorless Lamp Driver	3	4.2	±70	–	Yes	1.5	8-pin MSOP
HV852	Single Inductorless Lamp Driver	2.4	5	±80	–	Yes	1.5	10-pin WDFN, 8-pin MSOP
HV853	Single Inductorless Lamp Driver	3.2	5	±80	–	Yes	1.5	10-pin WDFN, 8-pin MSOP
HV857	Single Lamp Driver	1.8	5	±95	6	Yes	5	8-pin WDFN, 8-pin MSOP
HV857L	Single Lamp Driver	1.8	5	±95	6	Yes	5	8-pin WDFN, 8-pin MSOP
HV859	Single Lamp Driver	1.8	5	±105	6	Yes	5	8-pin WDFN, 8-pin MSOP
HV860	Single Lamp Driver	2.5	4.5	±110	6	Yes	5	12-pin WQFN
MIC4826	Single Lamp Driver	1.8	5.5	±80	7	Yes	3	8-pin MSOP
MIC4827	Single Lamp Driver	1.8	5.5	±90	7	Yes	3	8-pin MSOP
MIC4830	Single Lamp Driver	1.8	5.5	±90	7	Yes	4	8-pin MSOP, 8-pin VDFN
MIC4832	Single Lamp Driver	1.8	5.5	±110	7	Yes	3	8-pin MSOP, 8-pin VDFN
Dual Lamp Drivers								
HV861	Dual Lamp Drivers	2.5	4.5	±90	7	Yes	5	16-pin WQFN
MIC4833	Dual Lamp Drivers	2.3	5.8	±110	12	Yes	4	12-pin VDFN

DISPLAY AND LED DRIVERS: LED Drivers

Part #	Application	Topology	Input Voltage (V)	Ouput Current	Dimming	Packages
Automotive (AEC-Q100 Certified) LED Drivers						
AT9917	Auto	Boost, Sepic	5.3–40	External FET	PWM/Linear	24- pin TSSOP
AT9919	Auto	Buck	4.5–40	External FET	PWM	8-pin DFN
AT9932	Auto	Boost-Buck (Ćuk)	5.3–40	External FET	PWM/Linear	24-pin TSSOP
AT9933	Auto	Boost-Buck (Ćuk)	9.0–75	External FET	PWM	8-pin SOIC
MAQ3203	Auto	Buck	4.5-42	External FET	PWM	8-pin SOIC

General Purpose LED Drivers										
Part #	**Topology**	**Input Voltage (V)**	**Dimming**	**I_O Typ. (mA)**	**Switching Frequency (Hz)**	**Switching MOSFET**	**Dithered**	**ILED Accuracy**	**V_{FB} (V)**	**Packages**
HV9801A	Buck	15–450	4-Level Switch	1.0	100K	External FET	–	N/A	0.25	16-pin SOIC 150 mil, 8-pin SOIC 150 mil
HV9803B	Buck	7–13.2	PWM/Linear	1.5	100K	External FET	–	±2%	0.28	8-pin SOIC 150 mil
HV9805	2-Stage	102–265	–	2.5	370K	0.7A FET	–	N/A	1.25	10-pin MSOP
HV98100	Buck-Boost	9.5–17.5	–	0.2	320K	External FET	–	±5%	0.2	6-pin SOT-23
HV98101	Buck-Boost	9.5–17.5	–	0.2	320K	External FET	–	±5%	0.2	6-pin SOT-23
HV9861A	Buck	15–450	PWM/Linear	1.5	100K	External FET	–	±3%	0.27	16-pin SOIC 150 mil, 8-pin SOIC 150 mil
HV9910B	Buck	8–450	PWM/Linear	1.0	100K	External FET	–	±5%	0.25	16-pin SOIC 150 mil, 8-pin SOIC 150 mil

DISPLAY AND LED DRIVERS: LED Drivers (Continued)

Part #	Topology	Input Voltage (V)	Dimming	I_Q Typ. (mA)	Switching Frequency (Hz)	Switching MOSFET	Dithered	ILED Accuracy	V_{FB} (V)	Packages
General Purpose LED Drivers (Continued)										
HV9910C	Buck	15–450	PWM/Linear	1.0	100K	External FET	–	±5%	0.25	16-pin SOIC 150 mil, 8-pin SOIC 150 mil
HV9918	Buck	4.5–40	PWM	1.5	2M	0.7A FET	–	±5%	0.23	8-pin WDFN
HV9919B	Buck	4.5–40	PWM	1.5	2M	External FET	–	±5%	0.23	8-pin WDFN
HV9921	Buck	20–400	–	0.2	100K	20 mA	–	N/A	N/A	3-pin TO-92, 3-pin SOT-89
HV9922	Buck	20–400	–	0.2	100K	50 mA	–	N/A	N/A	3-pin TO-92, 3-pin SOT-89
HV9923	Buck	20–400	–	0.2	100K	30 mA	–	N/A	N/A	3-pin TO-92, 3-pin SOT-89
HV9925	Buck	20–400	PWM	0.3	100K	20–50 mA	–	N/A	0.47	8-pin SOIC
HV9930	Ćuk	8–200	PWM	1.0	Variable	External FET	–	N/A	0.12	8-pin SOIC 150 mil
HV9931	Buck	8–450	PWM	1.0	100K	External FET	–	N/A	7.5	8-pin SOIC 150 mil
MIC3201	Buck	6–20	PWM	1.2	Hyst to 1.0M	1A FET	–	±5%	2	8-pin SOIC
MIC3202	Buck	6–37	PWM	1.2	Hyst to 1.0M	1A FET	✓	±5%	2	8-pin SOIC
MIC3202-1	Buck	6–37	PWM	1.2	Hyst to 1.0M	1A FET	–	±5%	2	8-pin SOIC
MIC3203	Buck	4.5–42	PWM	1.0	Hyst to 1.5M	External FET	✓	±5%	2	8-pin SOIC
MIC3203-1	Buck	4.5–42	PWM	1.0	Hyst to 1.5M	External FET	–	±5%	2	Please call for package information
MIC3205	Buck	4.5–40	PWM	1.3	Hyst to 1M	External FET	–	±5%	2	10-pin VDFN
MIC3230	Boost	6–45	PWM	3.2	100K–1.0M	External FET	–	±3%	0.25	16-pin TSSOP, 12-pin VDFN
MIC3231	Boost	6–45	PWM	3.2	100K–1.0M	External FET	✓	±3%	0.25	16-pin TSSOP, 12-pin VDFN
MIC3232	Boost	6–45	PWM	3.2	400K	External FET	–	±3%	0.25	10-pin MSOP

Backlight LED Drivers

Part #	Topology	Input Voltage (V)	Dimming	I_Q Typ. (mA)	Output Current	Int. Diode	V_{FB} (V)	Frequency	Packages
HV9803	Buck	7–13.2	PWM/Linear	1.5	External FET	N/A	0.8	100K	8-pin SOIC 150 mil
HV9911	Boost, SEPIC, Buck-Boost	9–250	PWM /Linear	N/A	External FET	N/A	0.45	100K	16-pin SOIC 150 mil
HV9912	Boost, SEPIC, Buck-Boost	9–100	PWM /Linear	N/A	External FET	N/A	0.45	100K	16-pin SOIC 150 mil
HV9961	Buck	8–450	PWM/Linear	3.5	External FET	N/A	0.27	100K	8-pin SOIC 150 mil, 16-pin SOIC 150mil
HV9963	Boost, SEPIC, Buck-Boost	8–40	PWM/Linear	N/A	External FET	N/A	N/A	100K	16-pin SOIC 150 mil
HV9967B	Buck	8–60	PWM/Linear	N/A	1A FET	N/A	0.24	100K	8-pin MSOP, 8-pin WDFN
HV9980	Buck	100–160	PWM/Linear	3.0	0.07A FET	N/A	N/A	500K	24-pin SOIC 300 mil
HV9985	Boost, SEPIC, Buck	10–40	PWM/Linear	1.5	External FET	N/A	N/A	500K	40-pin VQFN
MIC2282	Boost	0.9–15	N/A	0.12	1A BJT	N/A	0.22	20K	8-pin MSOP
MIC2287	Boost	2.5–10	PWM/Analog	2.5	2A BJT	N/A	0.095	1.2M	5-pin TSOT, 8-pin VDFN
MIC2287C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	N/A	0.095	1.2M	5-pin TSOT, 8-pin VDFN
MIC2289	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.2M	6-pin TSOT, 8-pin VDFN
MIC2289C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.2M	6-pin TSOT
MIC2291	Boost	2.5–10	PWM/Analog	2.8	2A BJT	N/A	0.095	1.2M	5-pin TSOT, 8-pin VDFN
MIC2292	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.6M	8-pin VDFN
MIC2292C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.6M	8-pin VDFN
MIC2293	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	2.0M	8-pin VDFN
MIC2293C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	2.0M	8-pin VDFN
MIC2297	Boost	2.5–10	PWM/Analog	4	3A BJT	N/A	0.2	600K	10-pin VDFN
MIC2298	Boost	2.5–10	PWM/Analog	15	6A BJT	N/A	0.2	1.0M	12-pin VDFN
MIC2299	Boost	2.5–10	PWM/Analog	15	8A BJT	N/A	0.2	2.0M	12-pin VDFN
MIC3223	Boost	4.5–20	PWM	2.1	10A FET	N/A	0.2	1.0M	16-pin TSSOP
MIC3263	Boost	6–40	PWM	6.5	2A BJT	N/A	2.36	400K–1.8M	24-pin VQFN
MIC3287	Boost	2.8–6.5	PWM/Analog	2.1	1A BJT	N/A	0.25	1.2M	5-pin TSOT, 6-pin TSOT, 8-pin VDFN
MIC3289	Boost	2.5–6.5	1-Wire	1.4	2A BJT	Yes	0.25	1.2M	6-pin TSOT, 8-pin VDFN

DISPLAY AND LED DRIVERS: LED Drivers (Continued)

Part #	Input Voltage (V)	# of White LEDs	Dimming	I_Q Typ. (mA)	V Dropout LED @ 20 mA	ILED Matching	Ext. LDOs	$V_{DROPOUT}$	IQLDO	Comments	Packages
Linear LED Drivers											
MIC2841A	3–5.5	4 @ 20 mA	PWM (200 Hz–500 kHz)	1.4	40 mV	±1.5%	–	–	–	DAM™	10-pin UDFN
MIC2842A	3–5.5	4 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	–	–	–	DAM	10-pin UDFN
MIC2843A	3–5.5	6 @ 20 mA	PWM (200 Hz–500 kHz)	1.4	40 mV	±1.5%	–	–	–	DAM	10-pin UDFN
MIC2844A	3–5.5	6 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	–	–	–	DAM	10-pin UDFN
MIC2846A	3–5.5	6 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	2	150	35	DAM	14-pin VQFN
MIC2860-2D	3–5.5	2 @ 30.2 mA	1-Wire, 32-Steps	0.7	52 mV	±0.5%	–	–	–		6-pin SC70, 6-pin SOT-23
MIC2860-2P	3–5.5	2 @ 30.2 mA	PWM down to 250Hz	0.7	52 mV	±0.5%	–	–	–		6-pin SC70, 6-pin SOT-23
MIC4811	3–5.5	6 @ 50 mA	PWM (200 Hz–500 kHz)	1.7	100 mV @ 50 mA	±1.0%	–	–	–	DAM	10-pin MSOP
MIC4812	3–5.5	6 @ 100 mA	PWM (200 Hz–500 kHz)	3.2	190 mV @ 100 mA	±1.0%	–	–	–	DAM	10-pin eMSOP
MIC4801	3–5.5	1 @ 600 mA	PWM (200 Hz–500 kHz)	2.2	130 mV @ 400 mA	N/A	–	–	–	±1% Accuracy	8-pin SOIC
MIC4802	3–5.5	1 @ 800 mA	PWM (200 Hz–500 kHz)	4.1	280 mV @ 800 mA	N/A	–	–	–	±1% Accuracy	8-pin eSOIC

Linear Regulators

Part #	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Dimming	Parallelable	Packages	Features
CL2	5.0–90	5.0–90	20	External FET	Yes	3-pin TO-252, 3-pin TO-92, 3-pin SOT-89	–
CL25	5.0–90	5.0–90	25	External FET	Yes	3-pin TO-92, 3-pin SOT-89	–
CL220	5.0–220	5.0–220	20	External FET	Yes	3-pin TO-252, 3-pin TO-220	–
CL320	6.5–90	4.0–90	20	PWM	Yes	8-bit SOIC with Heat Slug	OTP, separate ENABLE pin
CL325	6.5–90	4.0–90	25	PWM	Yes	8-bit SOIC with Heat Slug	OTP, separate ENABLE pin
CL330	6.5–90	4.0–90	30	PWM	Yes	8-bit SOIC with Heat Slug	OTP, separate ENABLE pin
CL520	4.75–90	1.0–90	20	–	Yes	3-pin TO-252, 3-pin TO-92	–
CL525	4.75–90	1.0–90	25	–	Yes	3-pin TO-252, 3-pin TO-92	–
CL6	6.5–90	4.0–90	100	No	Yes	3-pin TO-252, 3-pin TO-220	Reverse polarity protection, OTP
CL7	6.5–90	4.0–90	100	PWM	Yes	8-pin SOIC with Heat Slug	Reverse polarity protection, OTP

Display LED Drivers

Part #	Input Voltage (V)	Sink Current (mA)	Segments	LEDs	Description	Packages
MIC5400	4.75–5.5	30	N/A	2 banks of 8	Driving Large LED Array in Signs	28-pin SOIC
MM5450	4.75–11	15	34	N/A	7-Segment LED Driver with EN	40-pin PDIP, 44-pin PLCC
MM5451	4.75–11	15	35	N/A	7-Segment LED Driver	40-pin PDIP, 44-pin PLCC

Sequential Linear LED Drivers

Part #	V_{IN} (V)	V_{OUT} (V)	Output Current (mA)	Dimming	Parallelable	Features	Packages
CL8800	90–275	70–350	115	External Dimmer	Yes	6-Stage	33-pin QFN
CL8801	90–275	70–350	200	External Dimmer	Yes	4-Stage	33-pin QFN
CL88020	90–135	70–190	115	External Dimmer	Yes	4-Tap	8-pin SOIC EP
CL88030	**90**	**320**	**N/A**	**External**	**Yes**	**10-ld QFN (3mm x 3mm)**	**4-Tap, ALR, OTP, Iout FET Dependent**
CL88031	**90**	**320**	**N/A**	**External**	**Yes**	**10-ld QFN (3mm x 3mm)**	**6-Tap, ALR, OTP, Iout FET Dependent**

Camera Flash LED Drivers

Part #	Input Voltage (V)	# of LED Channels	Max. LED Current (mA)	Standby Current (mA)	Switch Frequency (MHz)	Peak Efficiency (%)	Current Accuracy (%)	Interface	Packages
MIC2870	2.7–5	2	1500	0.90	2	94	±10	I^2C	16-pin TQFN
MIC2871	2.7–5.5	1	1200	0.23	2	94	±5	Single-Wire	14-pin LDFN
MIC2873	2.7–5.5	1	1200	0.17	2	92	±8	Single-Wire	9-pin WLCSP
MIC2874	2.7–5.5	1	1200	0.17	4	92	±8	Single-Wire	9-pin WLCSP

HIGH-VOLTAGE INTERFACE

HIGH-VOLTAGE INTERFACE: Driver Arrays

Part #	Output Channels	V_{OUT} Operating (V) Transient	V_{OUT} Operating (V) Sustained	Input Structure	Description
Sink					
HV5122	32	250	225	Serial	Serial to parallel converter with output enable and strobe
HV5222	32	250	225	Serial	Serial to parallel converter with output enable and strobe
HV5522	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5523	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5530	32	315	300	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5622	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5623	32	250	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5630	32	315	300	Serial	Serial to parallel converter with latches, polarity, and blanking
MIC5800	4	50	50	Parallel	4.4 MHz (min.) Data at 5V, Higher at 12V; TTL/CMOS/PMOS Logic; Integrated clamp diodes; CLR/Strobe/Enable Out
MIC5801	8	50	50	Parallel	4.4 MHz (min.) Data at 5V, Higher at 12V; TTL/CMOS/PMOS Logic; Integrated clamp diodes; CLR/Strobe/Enable Out
MIC5821	8	50	35	Serial	Similar to MIC5801, Adds thermal Shutdown, UVLO, OCP
MIC5822	8	80	50	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, TTL/CMOS/PMOS/NMOS Logic
MIC5841	8	50	35	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, TTL/CMOS/PMOS/NMOS Logic
MIC5842	8	80	50	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, Low Power Logic: TTL/CMOS/PMOS/NMOS; Internal Pull Up/Down Res's
MIC58P01	8	80	80	Parallel	8-bit SRs (Cascadable), Operable w/Split Supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, Low Power Logic: TTL/CMOS/PMOS/NMOS; Internal Pull Up/Down Res's
MIC58P42	8	80	50	Serial	Similar to MIC5842, adds thermal shutdown, UVLO, OCP
MIC59P50	8	80	80	Parallel	Similar to MIC58P01, with added error flag output
MIC59P60	8	80	50	Serial	Similar to MIC58P42, with added error flag output
Source					
HV57009	64	95	85	Serial	Current controlled driver with latches and blanking, two 32-bit shift registers
MIC2981/82	8	50	35	Parallel	8-Ch. driver with parallel I/Os; TTL/CMOS/PMOS Logic; Integrated clamp diodes; V_{IN}<12V
MIC5891	8	50	35	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 5 MHz (min.) Data at 5V, Integrated clamp diodes; TTL/CMOS/PMOS/NMOS Logic; Strobe and output enable
Source-Sink					
HV3418	64	200	180	Serial	Serial to parallel converter with latches, polarity, and blanking
HV507	64	320	300	Serial	Serial to parallel converter with latches, polarity, and blanking
HV508	2	60	45	Parallel	H-Bridge output with two output voltage level selections and polarity; Specially targeted as LCD shutter driver
HV513	8	275	250	Serial	Serial to parallel converter with latches, polarity, and blanking HI-Z and short circuit detect
HV518	32	90	80	Serial	Serial to parallel converter with latches, enable, and strobe; Specially targeted as vacuum-fluorescent display drive
HV5308	32	90	80	Serial	Serial to parallel converter with latches, and output enable
HV5408	32	90	80	Serial	Serial to parallel converter with latches, and output enable
HV574	80	90	80	Serial	Serial to parallel converter with latches, polarity, and blanking
HV57708	64	90	80	Serial	Polarity, and blanking with four 16-bit shift registers
HV57908	64	90	80	Serial	Latches, blanking, polarity, and single shift register
HV5812	20	90	80	Serial	Serial to parallel converter with latches, blanking and strobe
HV582	96	85	80	Serial	96-Channel, with high-voltage CMOS Outputs, 80V
HV583	128	90	80	Serial	128-Channel, with high-voltage CMOS Outputs, 80V
HV66	32	70	60	Serial	Serial to parallel converter with latches, polarity and blanking
HV6810	10	90	80	Serial	Serial to parallel converter with data latches and channel polarity select
HV7022	34	250	230	Serial	Serial to parallel converter with direction, enable, and polary select; particularly useful for ACTFEL displays
HV7224	40	260	240	Serial	Serial to parallel converter with latches, and output enable
HV7620	32	225	200	Serial	Serial to parallel converter with latches, channel polarity select, and blanking
HV9308	32	90	80	Serial	Serial to parallel converter latches and output enable, CW directional shift
HV9408	32	90	80	Serial	Serial to parallel converter latches and output enable; CCW directional shift
HV9808	32	90	80	Serial	Serial to parallel converter latches, polarity, and output enable; CCW directional shift

HIGH-VOLTAGE INTERFACE: Amplifiers and MEMS Drivers

Part #	Output Channels	Slew Rate (V/µs)	Closed Loop Gain (V/V)	Feedback Resistance (MΩ)	Source Current (Max. µA)	Sink Current (Max. µA)	Output Capacitive Load (Max. pF)	Packages
HV254	32	3	50	12	300	300	100	100-pin MQFP
HV256	32	2	72	12	715	715	3000	100-pin MQFP
HV257	32	2	72	12	500	500	3000	100-pin MQFP
HV264	4	9	66.7	5.3	3000	3000	15	24-pin TSSOP

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface

Part #	BV_{DSX} Min. (V)	$R_{DS(ON)}$ Max. (Ω)	$V_{GS(OFF)}$ Min. (V)	$V_{GS(OFF)}$ Max. (V)	Packages
Depletion-Mode N-Channel					
LND01	9	1.4	–0.8	–3	5-pin SOT-23
DN1509	90	6	–1.8	–3.5	3-pin SOT-89, 5-pin SOT-23
DN2625	250	3.5	–1.5	–2.1	8-pin VDFN, 3-pin DPAK
DN3525	250	6	–1.5	–3.5	3-pin SOT-89
DN2530	300	12	–1	–3.5	3-pin TO-92, 3-pin SOT-89
DN3535	350	10	–1.5	–3.5	3-pin SOT-89
DN2535	350	25	–1.5	–3.5	3-pin TO-92, 3-pin TO-220
DN3135	350	35	–1.5	–3.5	3-pin SOT-89, 3-pin SOT-23
DN2540	400	25	–1.5	–3.5	3-pin TO-92, 3-pin SOT-89, 3-pin TO-220
DN3545	450	20	–1.5	–3.5	3-pin TO-92, 3-pin SOT-89
DN3145	450	60	–1.5	–3.5	3-pin SOT-89
DN2450	500	10	–1.5	–3.5	3-pin DPAK, 3-pin SOT-89
LND150	500	1000	–1	–3	3-pin TO-92, 3-pin SOT-89, 3-pin SOT-23
LND250	500	1000	–1	–3	3-pin SOT-23
DN3765	650	8	–1.5	–3.5	3-pin DPAK
DN2470	700	42	–1.5	–3.5	3-pin DPAK

Part #	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω)	C_{ISS} Max. (pF)	$V_{GS(TH)}$ Max. (V)	Packages
Enhancement-Mode N-Channel					
TN2501	18	2.5	110	1.0	3-pin SOT-89
TN0702	20	1.3	200	1.0	3-pin TO-92
VN0300	30	1.2	190	2.5	3-pin TO-92
TN0604	40	0.8	190	1.6	3-pin TO-92
TN2504	40	1.0	125	1.6	3-pin SOT-89
TN0104	40	2.0	70	1.6	3-pin TO-92, 3-pin SOT-89
VN0104	40	3.0	65	2.4	3-pin TO-92
VN3205	50	0.3	300	2.4	3-pin TO-92, 3-pin SOT-89
TN0606	60	1.5	150	2.0	3-pin TO-92
TN2106	60	2.5	50	2.0	3-pin TO-92, 3-pin SOT-23
2N6660	60	3.0	50	2.0	3-pin TO-39
TN0106	60	3.0	60	2.0	3-pin TO-92
VN0106	60	3.0	65	2.4	3-pin TO-92
VN0606	60	3.0	50	2.0	3-pin TO-92
VN2106	60	4.0	50	2.4	3-pin TO-92
2N7000	60	5.0	60	3.0	3-pin TO-92
2N7002	60	7.5	50	2.5	3-pin SOT-23
2N7008	60	7.5	50	2.5	3-pin TO-92
VN2222L	60	7.5	60	2.5	3-pin TO-92

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface (Continued)					
Part #	**BV_{DSS} Min. (V)**	**$R_{DS(ON)}$ Max. (Ω)**	**C_{ISS} Max. (pF)**	**$V_{GS(TH)}$ Max. (V)**	**Packages**
Enhancement-Mode N-Channel (Continued)					
VN0808	80	4.0	50	2.0	3-pin TO-92
VN0109	90	3.0	65	2.4	3-pin TO-92
2N6661	90	4.0	50	2.0	3-pin TO-39
VN2210	100	0.4	500	2.4	3-pin TO-92, 3-pin TO-39
TN0610	100	1.5	150	2.0	3-pin TO-92
TN2510	100	1.5	125	2.0	3-pin SOT-89
TN0110	100	3.0	60	2.0	3-pin TO-92
VN2110	100	4.0	50	2.4	3-pin SOT-23
VN1206	120	6.0	125	2.0	3-pin TO-92
TN0620	200	6.0	150	1.6	3-pin TO-92
VN2224	240	1.3	350	3.0	3-pin TO-92
TN2524	240	6.0	125	2.0	3-pin SOT-89
VN2406	240	6.0	125	2.0	3-pin TO-92
VN2410	240	10.0	125	2.0	3-pin TO-92
TN2124	240	15.0	50	2.0	3-pin SOT-23
TN2425	250	3.5	200	2.0	3-pin SOT-89
TN5325	250	7.0	110	2.0	3-pin TO-92, 3-pin SOT-89, 3-pin SOT-23
TN2130	300	25.0	50	2.4	3-pin SOT-23
TN2435	350	6.0	200	0.8 (min)	3-pin SOT-89
TN5335	350	15.0	110	2.0	3-pin SOT-89, 3-pin SOT-23
TN2640	400	5.0	225	2.0	3-pin DPAK, 3-pin TO-92, 8-pin SOIC 150 mil
TN2540	400	12.0	125	2.0	3-pin TO-92, 3-pin SOT-89
VN4012	400	12.0	110	1.8	3-pin TO-92
VN2450	500	13.0	150	4.0	3-pin TO-92, 3-pin SOT-89
VN0550	500	60.0	55	4.0	3-pin TO-92
VN2460	600	20.0	150	4.0	3-pin TO-92, 3-pin SOT-89
Enhancement-Mode P-Channel					
LP0701	–16.5	1.5	250	–1.0	3-pin TO-92, 8-pin SOIC 150 mil
TP2502	–20	2.0	125	–2.4	3-pin SOT-89
VP3203	–30	0.6	300	–3.5	3-pin TO-92, 3-pin SOT-89
TP0604	–40	2.0	150	–2.4	3-pin TO-92
TP2104	–40	6.0	60	–2.0	3-pin TO-92, 3-pin SOT-23
VP0104	–40	8.0	60	–3.5	3-pin TO-92
VP2206	–60	0.9	450	–3.5	3-pin TO-92, 3-pin TO-39
VP0106	–60	8.0	60	–3.5	3-pin TO-92
VP2106	–60	12.0	60	–3.5	3-pin TO-92
VP0808	–80	5.0	150	–4.5	3-pin TO-92
VP0109	–90	8.0	60	–3.5	3-pin TO-92
TP2510	–100	3.5	125	–2.4	3-pin SOT-89
VP2110	–100	12.0	60	–3.5	3-pin SOT-23
TP0620	–200	12.0	150	–2.4	3-pin TO-92
TP2520	–200	12.0	125	–2.0	3-pin SOT-89
TP2522	–220	12.0	125	–2.4	3-pin SOT-89
TP5322	–220	12.0	110	–2.4	3-pin SOT-89, 3-pin SOT-23
TP2424	–240	8.0	200	–2.4	3-pin SOT-89
TP2435	–350	15.0	200	–2.4	3-pin SOT-89

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface (Continued)					
Part #	**BV_{DSS} Min. (V)**	**$R_{DS(ON)}$ Max. (Ω)**	**C_{ISS} Typ. (pF)**	**$V_{GS(TH)}$ Max. (V)**	**Packages**
Enhancement-Mode P-Channel (Continued)					
TP2635	–350	15.0	300	–2.0	3-pin TO-92
TP2535	–350	25.0	125	–2.4	3-pin TO-92
TP5335	–350	30.0	110	–2.4	3-pin SOT-23
TP2640	–400	15.0	300	–2.0	3-pin TO-92, 8-pin SOIC 150 mil
TP2540	–400	25.0	125	–2.4	3-pin TO-92, 3-pin SOT-89
VP2450	–500	30.0	190	–3.5	3-pin TO-92, 3-pin SOT-89
VP0550	–500	125.0	70	–4.5	3-pin TO-92
TN2501	18	2.5	110	1.0	3-pin SOT-89
TN0702	20	1.3	200	1.0	3-pin TO-92
VN0300	30	1.2	190	2.5	3-pin TO-92
TN0604	40	0.8	190	1.6	3-pin TO-92
TN2504	40	1.0	125	1.6	3-pin SOT-89
TN0104	40	2.0	70	1.6	3-pin TO-92, 3-pin SOT-89
VN0104	40	3.0	65	2.4	3-pin TO-92
VN3205	50	0.3	300	2.4	3-pin TO-92, 3-pin SOT-89
TN0606	60	1.5	150	2.0	3-pin TO-92
TN2106	60	2.5	50	2.0	3-pin TO-92, 3-pin SOT-23
2N6660	60	3.0	50	2.0	3-pin TO-39
TN0106	60	3.0	60	2.0	3-pin TO-92
VN0106	60	3.0	65	2.4	3-pin TO-92
VN0606	60	3.0	50	2.0	3-pin TO-92
VN2106	60	4.0	50	2.4	3-pin TO-92
2N7000	60	5.0	60	3.0	3-pin TO-92
2N7002	60	7.5	50	2.5	3-pin SOT-23
2N7008	60	7.5	50	2.5	3-pin TO-92
VN2222L	60	7.5	60	2.5	3-pin TO-92
VN0808	80	4.0	50	2.0	3-pin TO-92
VN0109	90	3.0	65	2.4	3-pin TO-92
2N6661	90	4.0	50	2.0	3-pin TO-39
VN2210	100	0.4	500	2.4	3-pin TO-92, 3-pin TO-39
N-Channel (Enhancement-Mode MOSFET Arrays)					
TD9944	240	6	65	2	8-pin SOIC

Complimentary (Enhancement-Mode MOSFET Arrays)							
Part #	**BV_{DSS} N-Channel (V)**	**BV_{DSS} P-Channel (V)**	**$R_{DS(ON)}$ N-Channel Max. (Ω)**	**$R_{DS(ON)}$ P-Channel Max. (Ω)**	**$V_{GS(TH)}$ Max. (V)**	**Details**	**Packages**
TC1550	500	–500	60.0	125.0	4.0	N- and P-Channel Pair	8-pin SOIC
TC2320	200	–200	7.0	12.0	2.0	N- and P-Channel Pair	8-pin SOIC
TC6215	150	–150	4.0	7.0	2.0	N- and P-Channel Pair	8-pin SOIC
TC6320	200	–200	7.0	8.0	2.0	N- and P-Channel Pair	8-pin SOIC, 8-lead VDFN (4 x 4 mm)
TC6321	200	–200	7.0	8.0	2.0	N- and P-Channel Pair	8-lead VDFN (6 x 5 mm)
TC7920	200	–200	7.0	8.0	2.0	2 N- and P-Channel Pairs	12-pin VDFN
TC8020	200	–200	8.0	9.5	3.0	6 N- and P-Channel Pairs	56-pin VQFN
TC8220	200	–200	5.3	6.5	2.0	2 N- and P-Channel Pairs	12-pin VDFN

HIGH-VOLTAGE INTERFACE: Application Specific								
Part #	**DC/DC**	**Input Voltage Min. (V)**	**Input Voltage Max. (V)**	**Output Voltage Min. (V_{RMS})**	**Output Voltage Max. (V_{RMS})**	**Load Min. (pF)**	**Load Max. (pF)**	**Packages**
Liquid Lens Driver								
HV892	Internal Charge Pump	2.65	5.5	10	60	100	200	10-pin WDFN

Complimentary MOSFET Level Translator and Driver							
Part #	**# of Channels**	**Input Voltage Low (V)**	**Input Voltage High (V)**	**Output Voltage Low (V)**	**Output Voltage High (V)**	**Input to Output Isolation (V)**	**Packages**
HT0440	2	3.15	5.5	6	10	±400	10-pin VDFN, 8-pin SOIC 150 mil
HT0740	1	3.15	5.5	4.5	8.5	±400	8-pin SOIC 150 mil

High-Side Current Monitor						
Part #	**V_{IN} (V)**	**Gain**	**Rise and Fall Time (µs)**	**V_{SENSE} Max. (mV)**	**Quiescent Current Max. (µA)**	**Packages**
HV7800	8.0–450	Fixed, 1	0.7–2.0	500	50	5-pin SOT-23
HV7801	8.0–450	Fixed, 5	0.7–2.0	500	50	5-pin SOT-23
HV7802	8.0–450	Adjustable	0.7–1.4	500	50	8-pin MSOP

Fault Protection					
Part #	**Voltage (V)**	**# of Channels**	**Ron (Ω)**	**V_{OFF} (V)**	**Packages**
FP0100	100	1	4.5	4.5	3-pin SOT-89

Relay Driver and Controller												
Part #	**V_{IN} Min. (V)**	**V_{IN} Max. (V)**	**I_{IN} Max. (mA)**	**Oscillator Frequency Min. (kHz)**	**Oscillator Frequency Max. (kHz)**	**Oscillator Frequency f_{SYNC} Min. (kHz)**	**Max Output Duty Cycle (%)**	**Typical Current Sense Pull-In (V)**	**Typical Current Sense Hold**	**External Adjustable Regulator Output Voltage (V)**	**External Adjustable Regulator Output Current (mA)**	**Packages**
HV9901	10	450	2	20	140	150	99.5	0.883	Adjustable	2.0–5.5	0–1.0	14-pin SOIC

LINEAR

LINEAR: Op Amps										
Part #	**# Per Package**	**GBWP**	**I_Q Typical (µA)**	**V_{OS} Max (mV)**	**Typical Input Bias Current (pA)**	**Input Voltage Noise Density (nV/rtHz)**	**Operating Voltage (V)**	**Temperature Range (°C)**	**Features**	**Packages**
MCP6441	1	9 kHz	0.45	4.5	1	190(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S), 5-pin SC-70(S)
MCP6442	2	9 kHz	0.45	4.5	1	190(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6444	4	9 kHz	0.45	4.5	1	190(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6031	1	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN, 5-pin SOT-23
MCP6032	2	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP
MCP6033	1	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP6034	4	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6041	1	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 5-pin SOT-23(S)
MCP6042	2	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6043	1	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 6-pin SOT-23(S)
MCP6044	4	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MIC7111	1	25 kHz	20	7	1	110	1.8 to 11	–40 to +85	Rail-to-Rail Input/Output	5-pin SOT-23

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# Per Package	GBWP	Io Typical (µA)	Vos Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6421	1	90 kHz	4.4	1	1	95(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin SOT-23(S), 5-pin SC-70(S)
MCP6422	2	90 kHz	4.4	1	1	95(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin SOIC, 8-pin MSOP
MCP6424	4	90 kHz	4.4	1	1	95(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin SOIC, 14-pin TSSOP
MCP6141	1	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	5-pin SOT-23(S), 8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6142	2	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6143	1	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 6-pin SOT-23(S)
MCP6144	4	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP606	1	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP, 5-pin SOT23(S)
MCP607	2	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP
MCP608	1	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP
MCP609	4	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP616	1	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP617	2	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP618	1	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, Chip select, PNP input	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP619	4	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6231	1	300 kHz	20	5	1	52(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN, 5-pin SC-70(U), 5-pin SOT-23(S, R, U)
MCP6232	2	300 kHz	20	5	1	52(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6234	4	300 kHz	20	5	1	52(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6051	1	385 kHz	30	0.15	1	34(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 DFN, 5-pin SOT-23(S)
MCP6052	2	385 kHz	30	0.15	1	34(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 DFN
MCP6054	4	385 kHz	30	0.15	1	34(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MIC861	1	400 kHz	4.6	10	20	–	2.43 to 5.25	–40 to +85	Rail-to-Rail Output	5-pin SC-70
MIC863	2	450 kHz	4.2	6.0	10	–	2.0 to 5.25	–40 to +85	Rail-to-Rail Output	8-pin SOT-23
LMC7101	1	500 kHz	500	6	1	37	2.7 to 12	–40 to +85	Rail-to-Rail Input/Output	5-pin SOT-23
MIC7300	1	500 kHz	1000	9	0.5	37	2.2 to 10	–40 to +85	Rail-to-Rail Input/Output, High Output Drive	5-pin SOT-23, 8-pin MSOP
MCP6241	1	550 kHz	50	5	1	45(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN, 5-pin SC-70(U), 5-pin SOT-23(S ,R, U)
MCP6242	2	550 kHz	50	5	1	45(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6244	4	550 kHz	50	5	1	45(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6061	1	730 kHz	60	0.15	1	25(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 DFN, 5-pin SOT-23(S)
MCP6062	2	730 kHz	60	0.15	1	25(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 DFN
MCP6064	4	730 kHz	60	0.15	1	25(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MIC7122	2	750 kHz	800	9	1	37	2.2 to 15	–40 to +85	Rail-to-Rail Input/Output	8-pin MSOP
MCP6001	1	1 MHz	100	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(R)
MCP6002	2	1 MHz	100	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP6004	4	1 MHz	100	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6401	1	1 MHz	45	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(R)
MCP6402	2	1 MHz	45	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6404	4	1 MHz	45	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6411	1	1 MHz	47	1	1	38(1)	1.7 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin SOT-23(S), 5-pin SC-70(S)
MCP6L01	1	1 MHz	85	5	2	24(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(S)
MCP6L02	2	1 MHz	85	5	2	24(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP
MCP6L04	4	1 MHz	85	5	2	24(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	Iq Typical (µA)	Vos Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6071	1	1.2 MHz	110	0.15	1	19(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 DFN, 5-pin SOT-23(S)
MCP6072	2	1.2 MHz	110	0.15	1	19(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 DFN
MCP6074	4	1.2 MHz	110	0.15	1	19(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6H01	1	1.2 MHz	135	3.5	10	35(1)	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN, 5-pin SOT-23(S), 5-pin SC-70(S)
MCP6H02	2	1.2 MHz	135	3.5	10	35(1)	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H04	4	1.2 MHz	135	3.5	10	35(1)	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MCP6271	1	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 5-pin SOT-23(S, R)
MCP6272	2	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6273	1	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 6-pin SOT-23(S)
MCP6274	4	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6275	2	2 MHz	150	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6471	1	2 MHz	100	1.5	1	27(1)	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S), 5-pin SC-70(S)
MCP6472	2	2 MHz	100	1.5	1	27(1)	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6474	4	2 MHz	100	1.5	1	27(1)	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6L71	1	2 MHz	150	4	1	19(2)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC(S), 8-pin MSOP(S), 5-pin SOT-23(S, R)
MCP6L72	2	2 MHz	150	4	1	19(2)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP
MCP6L74	4	2 MHz	150	4	1	19(2)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MIC6211	1	2.5 MHz	1200	7	50000	–	4.0 to 32	–40 to +85	–	5-pin SOT-23
MCP6H71	1	2.7 MHz	480	4	10	28(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H72	2	2.7 MHz	480	4	10	28(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H74	4	2.7 MHz	480	4	10	28(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MCP601	1	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP, 5-pin SOT-23(S, R)
MCP602	2	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP
MCP603	1	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP, 6-pin SOT-23(S)
MCP604	4	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6L1	1	2.8 MHz	200	3	1	21(2)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin SOIC(S), 8-pin MSOP(S), 5-pin SOT-23(S, R)
MCP6L2	2	2.8 MHz	200	3	1	21(2)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin MSOP
MCP6L4	4	2.8 MHz	200	3	1	21(2)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MIC862	2	3.0 MHz	31	6	10	-	2.0 to 5.25	–40 to +85	Rail-to-Rail Output	8-pin SOT-23
MCP6286	1	3.5 MHz	540	1.5	1	5.4(2)	2.2 to 5.5	–40 to +125	Rail-to-Rail Output, Low noise	5-pin SOT-23(S, R)
MIC860	1	4.0 MHz	33	20	20	-	2.43 to 5.25	–40 to +85	Rail-to-Rail Output	5-pin SC-70
MCP6481	1	4 MHz	240	1.5	1	23(1)	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S), 5-pin SC-70(S)
MCP6482	2	4 MHz	240	1.5	1	23(1)	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6484	4	4 MHz	240	1.5	1	23(1)	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6281	1	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 5-pin SOT-23(S, R)
MCP6282	2	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6283	1	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 6-pin SOT-23(S, R)
MCP6284	4	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	I_Q Typical (µA)	V_{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6285	2	5 MHz	400	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6H81	1	5.5 MHz	700	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H82	2	5.5 MHz	700	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H84	4	5.5 MHz	700	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin 2 × 3 TDFN
MCP6491	1	7.5 MHz	530	1.5	1	19(1)	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23(S), 5-pin SC-70(S)
MCP6492	2	7.5 MHz	530	1.5	1	19(1)	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6494	4	7.5 MHz	530	1.5	1	19(1)	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6021	1	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output, 1/2 V_{CC} V_{REF}	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP, 8-pin MSOP, 5-pin SOT-23(S, R)
MCP6022	2	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP
MCP6023	1	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select, 1/2 V_{CC} V_{REF}	8-pin PDIP, 8-pin SOIC, 8-pin TSSOP
MCP6024	4	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6291	1	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 5-pin SOT-23(S, R)
MCP6292	2	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6293	1	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 6-pin SOT-23(S)
MCP6294	4	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6295	2	10 MHz	1100	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6H91	1	10 MHz	2000	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H92	2	10 MHz	2000	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6H94	4	10 MHz	2000	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MCP6L91	1	10 MHz	850	4	1	9.4(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC(S), 8-pin MSOP(S), 5-pin SOT-23(S, R)
MCP6L92	2	10 MHz	850	4	1	9.4(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP
MCP6L94	4	10 MHz	850	4	1	9.4(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP621	1	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP621S	1	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	5-pin SOT-23(S)
MCP622	2	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	8-pin SOIC, 8-pin 3 × 3 DFN
MCP623	1	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	6-pin SOT-23(S)
MCP624	4	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	14-pin SOIC, 14-pin TSSOP
MCP625	2	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	10-pin MSOP, 10-pin 3 × 3 DFN
MCP629	4	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output,Chip selects, mCal Technology	16-pin 4 × 4 QFN
MCP631	1	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN, 5-pin SOT-23(S)
MCP632	2	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 3 × 3 DFN
MCP633	1	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select	8-pin SOIC, 6-pin SOT-23

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

Note 1: Values are typical at 1 kHz

2: Values are typical at 10 kHz

3: Values are typical at 1 MHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	I_Q Typical (µA)	V_{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP634	4	24 MHz	2500	8	4	10[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MCP635	2	24 MHz	2500	8	4	10[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	10-pin MSOP, 10-pin 3 × 3 DFN
MCP639	4	24 MHz	2500	8	4	10[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	16-pin 4 × 4 QFN
MCP651	1	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP651S	1	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	5-pin SOT-23[S]
MCP652	2	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	8-pin SOIC, 8-pin 3 × 3 DFN
MCP653	1	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	6-pin SOT-23[S]
MCP654	4	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	14-pin SOIC, 14-pin TSSOP
MCP655	2	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	10-pin MSOP, 10-pin 3 × 3 DFN
MCP659	4	50 MHz	6000	0.2	6	7.5[3]	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	16-pin 4 × 4 QFN
MCP660	3	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MCP661	1	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 2 × 3 TDFN, 5-pin SOT-23(S)
MCP662	2	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin SOIC, 8-pin 3 × 3 DFN
MCP663	1	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select	8-pin SOIC, 6-pin SOT-23
MCP664	4	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pin SOIC, 14-pin TSSOP
MCP665	2	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	10-pin MSOP, 10-pin 3 × 3 DFN
MCP669	4	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	16-pin 4 × 4 QFN
MIC920	1	80 MHz	550	5	260000	10	5.0 to 18	–40 to +85	High Output Drive, High Slew Rate	5-pin SC-70, 5-pin SOT-23

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz
2: Values are typical at 10 kHz
3: Values are typical at 1 MHz

LINEAR: Zero-Drift Operational Amplifiers

Part #	# per Package	GBWP	I_Q Max (mA)	V_{OS} Max (µV)	V_{OS} Drift Max (µV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6V11	1	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23[S, U], 5-pin SC-70[U]
MCP6V12	2	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin 2 × 3 TDFN, 8-pin MSOP
MCP6V14	4	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin TSSOP
MCP6V31	1	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin SOT-23[S, U], 5-pin SC-70[U]
MCP6V32	2	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin 2 × 3 TDFN, 8-pin MSOP
MCP6V34	4	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin TSSOP
TC7652	1	0.4 MHz	3	5	0.05	5 to 16	0 to +70	Single and Split Supply, Low Noise	8-pin PDIP, 14-pin PDIP
MCP6V61	1	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin SOT-23[S, U], 5-pin SC-70[U]
MCP6V62	2	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin 2 × 3 TDFN, 8-pin MSOP
MCP6V64	4	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin TSSOP
MCP6V01	1	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6V02	2	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 4 × 4 DFN
MCP6V03	1	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6V06	1	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 2 × 3 TDFN

LINEAR: Zero-Drift Operational Amplifiers (Continued)

Part #	# per Package	GBWP	Iq Max (mA)	Vos Max (µV)	Vos Drift Max (µV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6V07	2	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin 4 × 4 DFN
MCP6V08	1	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin SOIC, 8-pin 2 × 3 TDFN
TC913A/B	2	1.5 MHz	1.1	15	0.15/0.30	7 to 16	0 to +70	Single and Split Supply	8-pin PDIP, 8-pin SOIC
TC7650	1	2 MHz	3.5	5	0.05	4.5 to 16	0 to +70	Single and Split Supply	8-pin PDIP, 14-pin PDIP
MCP6V26	1	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6V27	2	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP, 8-pin 4 × 4 DFN
MCP6V28	1	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 TDFN
MCP6V51	1	2 MHz	0.59	15	0.038	4.5 to 45	–40 to +125	Rail-to-Rail Output, Enhanced EMI Rejection	5-pin SOT-23(S), 8-pin MSOP
MCP6V71	1	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin SOT-23(S, U), 5-pin SC-70(U)
MCP6V72	2	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin 2 × 3 TDFN, 8-pin MSOP
MCP6V74	4	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin TSSOP
MCP6V81	1	5 MHz	0.77	9	0.02	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin SOT-23(S, U), 5-pin SC-70(U)
MCP6V82	2	5 MHz	0.77	9	0.059	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin 2 × 3 TDFN, 8-pin MSOP
MCP6V84	4	5 MHz	0.77	9	0.059	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin TSSOP
MCP6V91	1	10 MHz	1.6	9	0.017	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin SOT-23(S, U), 5-pin SC-70(U)
MCP6V92	2	10 MHz	1.6	9	0.04	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin 2 × 3 TDFN, 8-pin MSOP
MCP6V94	4	10 MHz	1.6	9	0.04	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin TSSOP

LINEAR: Differential Amplifiers

Part #	# per Package	GBWP	Slew Rate (V/µs)	Iq Typical (mA)	Vos Max (µV)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6D11	1	90 MHz	25	1.4	150	5	2.5 to 5.5	–40 to +125	Low noise, low distortion with power down pin	8-pin MSOP, 16-pin 3 × 3 QFN

LINEAR: Programmable Gain Amplifiers (PGA)

Part #	Channels	–3dB BW (MHz)	Iq Typ. (mA)	Vos (µV)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6S21	1	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6S22	2	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6S26	6	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6S28	8	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown	16-pin PDIP, 16-pin SOIC
MCP6S91	1	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown, VREF	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6S92	2	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6S93	2	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown, VREF, SO	10-pin MSOP

LINEAR: Selectable Gain Amplifiers (SGA)

Part #	Channels	–3dB BW (kHz)	Iq (µA)	Vos (mV)	Operating Voltage (V)	Temperature Range (°C)	Gain Steps (V/V)	Features	Packages
MCP6G01	1	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin	8-pin SOIC, 8-pin MSOP, 5-pin SOT-23(S, R, U)
MCP6G02	2	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin	8-pin SOIC, 8-pin MSOP
MCP6G03	1	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin, chip select	8-pin SOIC, 8-pin MSOP
MCP6G04	4	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin	14-pin SOIC, 14-pin TSSOP

LINEAR: Instrumentation Amplifiers

Part #	# Per Package	Bandwidth (kHz)	Iq Max (mA)	Max Vos (µV)	Vos Drift Max (µV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6N11	1	500	1.1	350	2.7	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, mCal Technology	8-pin SOIC, 8-pin 2 × 3 TDFN
MCP6N16	1	500	1.6	17	0.06	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enable Pin, Enhanced EMI Rejection	8-pin MSOP, 8-pin 3 × 3 DFN

LINEAR: Comparators

Part #	# Per Package	VREF (V)	Typical Propagation Delay (µs)	IQ Typical (µA)	VOS Max (mV)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6541	1	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(S, U), 8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6542	2	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6543	1	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6544	4	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP6546	1	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(S, U), 8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6547	2	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6548	1	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output, Chip select	8-pin PDIP, 8-pin SOIC, 8-pin MSOP
MCP6549	4	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP65R41	1	1.21/2.4	4	2.5	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output, VREF	6-pin SOT-23
MCP65R46	1	1.21/2.4	4	2.5	10	1.8 to 5.5	–40 to +125	Open Drain, Rail-to-Rail Input/Output, VREF	6-pin SOT-23
MCP6561	1	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(S)
MCP6562	2	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP
MCP6564	4	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MCP6566	1	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output	5-pin SOT-23(S, R, U), 5-pin SC-70(S)
MCP6567	2	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output	8-pin SOIC, 8-pin MSOP
MCP6569	4	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output	14-pin SOIC, 14-pin TSSOP
MIC6270	1	–	0.6	300	5	2.0 to 36	–40 to +85	Open Collector Output, High-Voltage	5-pin SOT-23
MIC7211	1	–	4	5	10	2.2 to 5.0	–40 to +85	Rail-to-Rail Input, Push-Pull Output	5-pin SOT-23
MIC7221	1	–	4	5	10	2.2 to 5.0	–40 to +85	Rail-to-Rail Input, Open-Drain Output	5-pin SOT-23
MIC833	1	1.25	5	1	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Adjustable Hystersis	5-pin SOT-23
MIC841	1	1.25	12	1.5	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Adjustable Hystersis, Push-Pull and Open-Drain Output Options	5-pin SC-70, 6-pin 1.6 × 1.6 TDFN
MIC842	1	1.25	12	1.5	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Hystersis, Push-Pull and Open-Drain Output Options	5-pin SC-70, 4-pin 1.2 × 1.6 TDFN

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

LINEAR: Current Sense Amplifiers

Part #	# per Package	Input Common-Mode Range (V)	VOS Max (uV)	VOS Drift Max (nV/°C)	Max Gain Error (%)	Bandwidth (kHz)	Iq Max (mA)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP6C02	1	3 to 65	16 (G=20), 14 (G=50), 12 (G=100)	85 (G=20), 70 (G=50), 65 (G=100)	1.6	500 (G=20), 500 (G=50), 350 (G=100)	0.75	2 to 5.5	–40 to +125	Bidirectional Current Sense Amplifier, Enhanced EMI Rejection	6-pin SOT-23
MCP6C04	**1**	**3 to 52**	**30 (G=20), 27 (G=50), 24 (G=100)**	**180 (G=20), 140 (G=50), 130 (G=100)**	**1.6**	**500 (G=20), 500 (G=50), 350 (G=100)**	**0.84**	**2 to 5.5**	**–40 to +125**	**Bidirectional Current Sense Amplifier, Enhanced EMI Rejection**	**6-pin SOT-23**

MIXED SIGNAL

MIXED SIGNAL: Successive Approximation Register (SAR) A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Input Voltage Range (V)	Max. Supply Current (µA)	Max. INL	Temperature Range (°C)	Packages
MCP3021	10	22	1	Single-ended	I²C	2.7 to 5.5	250	±1 LSB	–40 to +125	5-pin SOT-23A
MCP3001	10	200	1	Single-ended	SPI	2.7 to 5.5	500	±1 LSB	–40 to +85	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin TSSOP
MCP3002	10	200	2	Single-ended	SPI	2.7 to 5.5	650	±1 LSB	–40 to +85	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin TSSOP
MCP3004	10	200	4	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP3008	10	200	8	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	16-pin PDIP, 16-pin SOIC
MCP3221	12	22	1	Single-ended	I²C	2.7 to 5.5	250	±2 LSB	–40 to +125	5-pin SOT-23A
MCP3201	12	100	1	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin TSSOP

MIXED SIGNAL: Successive Approximation Register (SAR) A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Input Voltage Range (V)	Max. Supply Current (µA)	Max. INL	Temperature Range (°C)	Packages
MCP3202	12	100	2	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin TSSOP
MCP3204	12	100	4	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP3208	12	100	8	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	16-pin PDIP, 16-pin SOIC
MCP3301	13	100	1	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin TSSOP
MCP3302	13	100	2	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP3304	13	100	4	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	16-pin PDIP, 16-pin SOIC
MCP33111D	12	1000	1	Differential	SPI	2.5 to 5.1	2250	± 0.35	–40 to +85	10-pin MSOP, 10-pin TDFN
MCP33121D	14	1000	1	Differential	SPI	2.5 to 5.1	2250	± 1.5	–40 to +85	10-pin MSOP, 10-pin TDFN
MCP33131D	16	1000	1	Differential	SPI	2.5 to 5.1	2250	± 6	–40 to +85	10-pin MSOP, 10-pin TDFN

MIXED SIGNAL: Delta-Sigma A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Supply Voltage Range (V)	Typical Supply Current (µA)	Typical INL (ppm)	Temperature Range (°C)	Features	Packages
MCP3421	18 to 12	4 to 240	1 Diff	I²C	2.7 to 5.5	155	10	–40 to +125	PGA, VREF	6-pin SOT-23A
MCP3422	18 to 12	4 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP3423	18 to 12	4 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing	10-pin MSOP, 10-pin 3 × 3 DFN
MCP3424	18 to 12	4 to 240	4 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing	14-pin SOIC, 14-pin TSSOP
MCP3425	16 to 12	15 to 240	1 Diff	I²C	2.7 to 5.5	155	10	–40 to +125	PGA, VREF	6-pin SOT-23A
MCP3426	16 to 12	15 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP3427	16 to 12	15 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing	10-pin MSOP, 10-pin 3 × 3 DFN
MCP3428	16 to 12	15 to 240	4 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing	14-pin SOIC, 14-pin TSSOP
MCP3461	**16**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-ended Input Channels, 153.6 kSPS, Low-Noise 16-bit Delta-Sigma ADCs**	**3 mm × 3 mm UQFN-20**
MCP3462	**16**	**153.6k**	**2**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Two Differential or Four Single-ended Input Channels, 153.6 kSPS, Low-Noise 16-bit Delta-Sigma ADCs**	**3 mm × 3 mm UQFN-20**
MCP3464	**16**	**153.6k**	**4**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Four Differential or Eight Single-ended Input Channels, 153.6 kSPS, Low-Noise 16-bit Delta-Sigma ADCs**	**3 mm × 3 mm UQFN-20**
MCP3561	**24**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-ended Input Channels, 153.6 kSPS, Low-Noise 24-bit Delta-Sigma ADCs**	**3 mm × 3 mm UQFN-20**
MCP3562	**24**	**153.6k**	**2**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Two Differential or Four Single-ended Input Channels, 153.6 kSPS, Low-Noise 24-bit Delta-Sigma ADCs**	**3 mm × 3 mm UQFN-20**
MCP3564	**24**	**153.6k**	**4**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Four Differential or Eight Single-ended Input Channels, 153.6 kSPS, Low-Noise 24-bit Delta-Sigma ADCs**	**3 mm × 3 mm UQFN-20**
MCP3550-50	22	13	1 Diff	SPI	2.7 to 5.5	120	2	–40 to +125	50 Hz rejection	8-pin SOIC, 8-pin MSOP
MCP3550-60	22	15	1 Diff	SPI	2.7 to 5.5	140	2	–40 to +125	60 Hz rejection	8-pin SOIC, 8-pin MSOP
MCP3551	22	14	1 Diff	SPI	2.7 to 5.5	120	2	–40 to +125	Simultaneous 50/60 Hz rejection	8-pin SOIC, 8-pin MSOP
MCP3553	20	60	1 Diff	SPI	2.7 to 5.5	140	2	–40 to +125		8-pin SOIC, 8-pin MSOP

MIXED SIGNAL: Pipelined A/D Converters

Part #	Resolution	Max Sample Rate (Msamples/sec)	# of Input Channels	Input Type	Interface	Supply Voltage (V)	Power Dissipation (mW)	Input Channel BW (MHz)	SNR (dB)	SFDR (dB)	Input Range (Vp-p)	Features	Temperature Range (°C)	Packages
MCP37D31-200	16	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.7	90	2.98	Decimation filters, digital down-converter	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37231-200	16	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.7	90	2.98	Decimation filters	–40 to +85	124-pin VTLA, 121-pin TFBGA

MIXED SIGNAL: Pipelined A/D Converters

Part #	Resolution	Max Sample Rate (Msamples/sec)	# of Input Channels	Input Type	Interface	Supply Voltage (V)	Power Dissipation (mW)	Input Channel BW (MHz)	SNR (dB)	SFDR (dB)	Input Range (Vp-p)	Features	Temperature Range (°C)	Packages
MCP37D20-200	14	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	348	650	67.8	96	1.8	Decimation filters, digital down-converter	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37220-200	14	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	348	650	67.8	96	1.8	Decimation filters	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37D21-200	14	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.2	90	2.98	Decimation filters, digital down-converter	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37221-200	14	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.2	90	2.98	Decimation filters	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37D10-200	12	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	338	650	67	96	1.8	Decimation filters, digital down-converter, noise-shaping requantizer	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37210-200	12	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	338	650	67	96	1.8	Decimation filters, noise-shaping requantizer	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37D11-200	12	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	468	500	71.3	90	2.98	Decimation filters, digital down-converter	–40 to +85	124-pin VTLA, 121-pin TFBGA
MCP37211-200	12	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	468	500	71.3	90	2.98	Decimation filters, noise shaping requantizer	–40 to +85	124-pin VTLA, 121-pin TFBGA

MIXED SIGNAL: Energy Metering and Power Monitoring ICs

Part #	Dynamic Range	Power System	Typical Accuracy	Input Channels	ADC Resolution	Event Monitoring	Zero-Cross Detection Pin	Output Type	V_{DD} (V)	Temperature Range (°C)	Features	Packages
MCP39F511	4000:1	Single Phase	0.1%	I, V, Temp.	24-bit	5	Yes	UART/ Single-wire	2.7 to 3.6	–40 to +125	Power monitoring IC with active, reactive and apparent power, active and reactive energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output	QFN
MCP39F521	4000:1	Single Phase	0.1%	I, V, Temp.	24-bit	4	Yes	I^2C	2.7 to 3.6	–40 to +125	Power monitoring IC with active, reactive and apparent power, active and reactive energy, PF, RMS current/voltage, frequency, event notifications, EEPROM	QFN
MCP39F511N	4000:1	Single Phase	0.5%	I1, I2, V	24-bit	6	Yes	UART	2.7 to 3.6	–40 to +125	Dual-channel power monitoring IC with active, reactive and apparent power, active and reactive energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output	QFN
MCP39F511A	**4000:1**	**Single Phase**	**0.1%**	**I, V, Temp**	**24-bit**	**5**	**Yes**	**UART/ Single-wire**	**2.7 to 3.**	**–40 to +125**	**AC & DC dual-mode power monitoring IC with active, reactive and apparent power, active and reactive energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output**	**QFN**
MCP3905A/ 06A	500:1/ 1000:1	Single Phase	0.10%	I, V	16-bit	–	–	Active Power Pulse	4.5 to 5.5	–40 to +125	Active power calculation	SSOP
ATM90E26	5000:1	Single Phase	0.1%	I, V, N	N/A	1	Yes	SPI/UART/ Pulse	2.8 to 3.6	–40 to +85	Single-phase energy meter IC with active, reactive and apparent power, active and reactive energy, PF, RMS current/voltage, anti-tampering	SSOP
ATM90E32AS	6000:1	Poly-phase	0.1%	3xI, 3xV	N/A	8	Yes	SPI/Pulse	2.8 to 3.6	–40 to +85	Three-phase energy meter IC with active, reactive and apparent power and energy, PF, RMS current/voltage, frequency, fundamental and harmonic measurement, event notifications, temperature sensor	TQFP
ATM90E36A	6000:1	Poly-phase	0.1%	3xI, 3xV, N	N/A	5	Yes	SPI/Pulse	2.8 to 3.6	–40 to +85	Three-phase energy meter IC with active, reactive and apparent power and energy, PF, RMS current/voltage, frequency, DFT function, fundamental and harmonic measurement, event notifications, temperature sensor	TQFP

MIXED SIGNAL: Energy Measurement AFEs

Part #	Dynamic Range	Typical Accuracy	ADC Channels	ADC Resolution	SINAD	Gain Selection	Output Type	V_{DD} (V)	Temperature Range (°C)	Features	Packages
MCP3918/10	10000:1	0.1%	1/2	24-bit	93.5	Up to 32	SPI/2-wire	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 16-bit CRC, Register map lock, 2-wire interface	SSOP, QFN
MCP3919	10000:1	0.1%	3	24-bit	93.5	Up to 32	SPI/2-wire	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 16-bit CRC, Register map lock, 2-wire interface	SSOP, QFN
MCP3912	10000:1	0.1%	4	24-bit	93.5	Up to 32	SPI	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 16-bit CRC, Register map lock	SSOP, QFN
MCP3913/14	10000:1	0.1%	6/8	24-bit	94.5	Up to 32	SPI	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 16-bit CRC, Register map lock	SSOP, UQFN
ATSENSE101	3000:1	0.1%	3	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor	SOIC
ATSENSE201(H)	3000:1	0.1%	4	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor	TQFP
ATSENSE301(H)	3000:1	0.1%	7	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor	TQFP

MIXED SIGNAL: Current/DC Power Measurement ICs

Part #	# of Current Sensors	Description	Full Scale Range (mV)	Current Measurement Max Accr (%)	Effective Sampling Interval Min to Max (msec)	Bus Voltage Range (V)	# of Temp. Monitors (Ambient, Remote)	Temp. Accuracy Typ/Max (°C)	Alert/ THERM	Peak Detection	Address Select	Package
PAC1710	1	SMBus/I²C Current/DC Power Sensor	10, 20, 40, 80	±1	2.5 to 2,600	0 to + 40	–	–	1	–	Yes	10-pin DFN
PAC1720	2	Dual SMBus/I²C Current/DC Power Sensor	10, 20, 40, 80	±1	2.5 to 2,600	0 to + 40	–	–	1	–	Yes	10-pin DFN
PAC1921	2	SMBus/I²C Current/Power Sensor with Analog Output	100	±1	2.5 to 2,900	0 to + 32	–	–	–	–	Yes	10-pin DFN
PAC1932	**2**	**SMBus/I²C Current/Power Sensor with Accumulator**	**100**	**±0.9**	**0.98 to 125**	**0 to +32**	**N/A**	**N/A**	**1**	**-**	**Yes**	**16-pin QFN**
PAC1933	**3**	**SMBus/I²C Current/Power Sensor with Accumulator**	**100**	**±0.9**	**0.98 to 125**	**0 to +32**	**N/A**	**N/A**	**1**	**-**	**Yes**	**16-pin QFN**
PAC1934	4	SMBus/I²C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to + 32	–	–	1	–	Yes	2.225 × 2.17 mm WLCSP, 16-pin QFN
EMC1701-1	1	SMBus/I²C Current/DC Power Sensor with Temperature Monitoring	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 0	±0.25/±1	2	Hardware	Yes	12-pin 4 × 4 QFN
EMC1701-2	1	SMBus/I²C Current/DC Power Sensor with Temperature Monitoring	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 0	±0.25/±1	2	Software	Yes	10-pin MSOP
EMC1702-1	1	SMBus/I²C Current/DC Power Sensor with Two Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 1	±0.25/±1	2	Hardware	Yes	12-pin 4 × 4 QFN
EMC1704-1	1	SMBus/I²C Current/DC Power Sensor with Four Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 3	±0.25/±1	2	Software	Yes	14-pin SOIC
EMC1704-2	1	SMBus/I²C Current/DC Power Sensor with Four Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 3	±0.25/±1	2	Hardware	Yes	16-pin 4 × 4 QFN

MIXED SIGNAL: Dual-Slope A/D Converters

Part #	Supply Voltage (V)	Input Voltage Range	Resolution	Sampling Rate (Conv/s)	Input Channels	Data Interface	Temperature Range (°C)	Features	Packages
TC500	±4.5 to ±7.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 16 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time	16-pin PDIP, 16-pin SOIC
TC500A	±4.5 to ±7.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 17 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time	16-pin PDIP, 16-pin SOIC
TC510	+4.5 to +5.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 17 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time, Charge pump (–V) output pin	24-pin PDIP, 24-pin SOIC
TC514	+4.5 to +5.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 17 bits	4 to 10	4	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time, Charge pump (–V) output pin	28-pin PDIP, 28-pin SOIC
TC520A	+4.5 to +5.5	–	–	–	–	Serial port	0 to +70	Optional serial interface adapter for TC500/500A/510/514	14-pin PDIP, 16-pin SOIC
TC7109	±4.5 to ±5.5	V_{SS} + 1.5V to V_{DD} – 1.0V	12 bits plus sign bit	2 to 10	1	Parallel or Serial port	–25 to +85	Differential input range	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7109A	±4.5 to ±5.5	V_{SS} + 1.5V to V_{DD} – 1.0V	12 bits plus sign bit	2 to 10	1	Parallel or Serial port	–25 to +85	Differential input range	40-pin PDIP, 44-pin PLCC, 44-pin MQFP

MIXED SIGNAL: Binary and BCD A/D Converters

Part #	Description	Supply Voltage (V)	Input Voltage Range	Resolution (Digits)	Resolution (Counts)	Max Power (mW)	Data Interface	Temperature Range (°C)	Features	Packages
TC850	Binary A/D	±5	V_{SS} + 1.5V to V_{DD} – 1.5V	15-bit	±32,768	35	8-bit parallel	–25 to +70	Highest conversion speed (40 conv/sec)	44-pin PLCC, 40-pin PDIP
TC14433	BCD A/D	±4.5 to ±8	±199.9 mV to 1.999V	3½	±2,000	20	MUXed BCD	–40 to +85	For DMM, DPM, Data loggers	24-pin SOIC, 24-pin PDIP, 28-pin PLCC
TC14433A	BCD A/D	±4.5 to ±8	±199.9 mV to 1.999V	3½	±2,000	20	MUXed BCD	–40 to +85	For DMM, DPM, Data loggers	24-pin PDIP, 28-pin PLCC

MIXED SIGNAL: Display A/D Converters

Part #	Display Type	Supply Voltage (V)	Resolution (Digits)	Resolution (Counts)	Power (mW)	Temperature Range (°C)	Features	Packages
TC7106	LCD	9	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7106A	LCD	9	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7107	LED	±5	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7107A	LED	±5	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7116	LCD	9	3½	±2,000	10	–25 to +85	Hold function	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7116A	LCD	9	3½	±2,000	10	–25 to +85	Hold function	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7117	LED	±5	3½	±2,000	10	–25 to +85	Hold function	40-pin PDIP, 44-pin PLCC, 44-pin MQFP

MIXED SIGNAL: Display A/D Converters

Part #	Display Type	Supply Voltage (V)	Resolution (Digits)	Resolution (Counts)	Power (mW)	Temperature Range (°C)	Features	Packages
TC7117A	LED	±5	3½	±2,000	10	–25 to +85	Hold function	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7126	LCD	9	3½	±2,000	0.5	–25 to +85	Low-power TC7106	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7126A	LCD	9	3½	±2,000	0.5	–25 to +85	Low-power TC7106	40-pin PDIP, 44-pin PLCC, 44-pin MQFP
TC7129	LCD	9	4½	±20,000	4.5	0 to +70	Lowest noise ±3 mV sensitivity	40-pin PDIP, 44-pin PLCC, 44-pin MQFP

MIXED SIGNAL: Digital Potentiometers

Part #	# of Taps	Memory	# Per Package	Interface	Resistance (kOhms)	INL (Max)	DNL (Max)	Temperature Range (°C)	Comments	Packages
MCP4011	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer mode	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP4012	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat mode	6-pin SOT-23
MCP4013	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer to Vss	6-pin SOT-23
MCP4014	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat to Vss	5-pin SOT-23
MCP4017	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-70
MCP4018	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-70
MCP4019	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	5-pin SC-70
MCP40D17	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-70
MCP40D18	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-70
MCP40D19	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	5-pin SC-70
MCP4021	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer mode, Shutdown, WiperLock™ Technology	8-pin SOIC, 8-pin MSOP, 8-pin 2 × 3 DFN
MCP4022	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat mode, Shutdown, WiperLock Technology	6-pin SOT-23
MCP4023	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer to Vss, WiperLock Technology	6-pin SOT-23
MCP4024	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat to Vss, Shutdown, WiperLock Technology	5-pin SOT-23
MCP4141	128	Nonvolatile	1	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP4142	128	Nonvolatile	1	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP4241	128	Nonvolatile	2	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP, 16-pin 4 × 4 QFN
MCP4242	128	Nonvolatile	2	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	10-pin MSOP, 10-pin 3 × 3 DFN
MCP4131	129	Volatile	1	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP41HV31	128	Volatile	1	SPI	5, 10, 50, 100	0.5	0.125	–40 to +125	7-bit Volatile digital potentiometer with specified operation from 10V to 36V and SPI interface	14-pin TSSOP, 5 × 5 QFN
MCP4132	129	Volatile	1	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP4231	128	Volatile	2	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP, 16-pin 4 × 4 QFN
MCP4232	128	Volatile	2	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	10-pin MSOP, 10-pin 3 × 3 DFN
MCP41010	256	Volatile	1	SPI	10	1	1	–40 to +85	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC
MCP41050	256	Volatile	1	SPI	50	1	1	–40 to +85	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC
MCP41100	256	Volatile	1	SPI	100	1	1	–40 to +85	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC
MCP4151	256	Volatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP41HV51	256	Volatile	1	SPI	5, 10, 50, 100	1	0.25	–40 to +125	8-bit Volatile digital potentiomer with specified operation from 10V to 36V and SPI interface.	14-pin TSSOP, 5 × 5 QFN
MCP4152	256	Volatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP4161	256	Nonvolatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP4162	256	Nonvolatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP, 8-pin SOIC, 8-pin MSOP, 8-pin 3 × 3 DFN
MCP42010	256	Volatile	2	SPI	10	1	1	–40 to +85	Potentiometer mode, Shutdown	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP42100	256	Volatile	2	SPI	100	1	1	–40 to +85	Potentiometer mode, Shutdown	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP
MCP4251	256	Volatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP, 16-pin 4 × 4 QFN
MCP4252	256	Volatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	10-pin MSOP, 10-pin 3 × 3 DFN
MCP4261	256	Nonvolatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP, 16-pin 4 × 4 QFN
MCP4262	256	Nonvolatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	10-pin MSOP, 10-pin 3 × 3 DFN
MCP4341	129	Nonvolatile	4	SPI	5, 10, 50, 100	0.8	0.375	–40 to +125	7-bit, Volatile potentiometer with an SPI interface	20-pin TSSOP, 20-pin 4 × 4 QFN
MCP4342	129	Nonvolatile	4	SPI	5, 10, 50, 100	0.8	0.375	–40 to +125	7-bit, Volatile rheostat with an SPI interface	14-pin TSSOP
MCP4361	257	Nonvolatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile potentiometer with an SPI interface	20-pin TSSOP, 20-pin 4 × 4 QFN
MCP4362	257	Nonvolatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile rheostat with an SPI interface	14-pin TSSOP
MCP4331	129	Volatile	4	SPI	5, 10, 50, 100	0.8	0.375	–40 to +125	7-bit, Volatile potentiometer with an SPI interface	20-pin TSSOP, 20-pin 4 × 4 QFN
MCP4332	129	Volatile	4	SPI	5, 10, 50, 100	0.8	0.5	–40 to +125	7-bit, Volatile rheostat with an SPI interface	14-pin TSSOP
MCP4351	257	Volatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile potentiometer with an SPI interface	20-pin TSSOP, 20-pin 4 × 4 QFN
MCP4352	257	Volatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile rheostat with an SPI interface	14-pin TSSOP

MIXED SIGNAL: Digital Potentiometers

Part #	# of Taps	Memory	# Per Package	Interface	Resistance (kOhms)	INL (Max)	DNL (Max)	Temperature Range (°C)	Comments	Packages
MCP4441	129	Nonvolatile	4	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock™ Technology	20-pin TSSOP, 20-pin 4 × 4 QFN
MCP4442	129	Nonvolatile	4	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode, WiperLock Technology	14-pin TSSOP
MCP4461	257	Nonvolatile	4	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSOP
MCP4462	257	Nonvolatile	4	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	14-pin TSSOP, 5 × 5 DFN
MCP4531	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode	14-pin TSSOP, 5 × 5 DFN
MCP45HV31	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.125	–40 to +125	7-bit volatile digital potentiometer with specified operation from 10V to 36V and I²C interface	14-pin TSSOP, 16-pin 4 × 4 QFN
MCP45HV51	256	Volatile	1	I²C	5, 10, 50, 100	1	0.25	–40 to +125	7-bit volatile digital potentiometer with specified operation from 10V to 36V and I²C interface	8-pin MSOP
MCP4631	128	Volatile	2	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode	14-pin TSSOP, 16-pin 4x4 QFN
MCP4541	128	Nonvolatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSOP
MCP4641	128	Nonvolatile	2	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	14-pin TSSOP, 16-pin 4x4 QFN
MCP4651	256	Volatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode	14-pin TSSOP, 16-pin 4 × 4 QFN
MCP4561	256	Nonvolatile	1	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSOP
MCP4661	256	Nonvolatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	14-pin TSSOP, 16-pin 4 × 4 QFN
MCP4532	128	Nonvolatile	1	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode	8-pin MSOP, 8-pin 3 × 3 DFN
MCP4632	128	Volatile	2	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode	10-pin MSOP, 10-pin 3 × 3 DFN
MCP4542	128	Nonvolatile	1	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode, WiperLock Technology	8-pin MSOP, 8-pin 3 × 3 DFN
MCP4552	256	Volatile	1	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode	8-pin MSOP, 8-pin 3 × 3 DFN
MCP4652	256	Nonvolatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode	10-pin MSOP, 10-pin 3 × 3 DFN
MCP4562	256	Nonvolatile	1	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	8-pin MSOP, 8-pin 3 × 3 DFN
MCP4662	256	Nonvolatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	10-pin MSOP, 10-pin 3 × 3 DFN

MIXED SIGNAL: Frequency-to-Voltage/Voltage-to-Frequency Converters

Part #	Frequency Range (kHz)	Full Scale (ppm FS/°C)	Non-linearity (%FS)	Temperature Range (°C)	Packages
TC9400	100	±40	±0.05	–40 to +85	14-pin PDIP, 14-pin SOIC
TC9401	100	±40	±0.02	–40 to +85	14-pin PDIP, 14-pin SOIC
TC9402	100	±100	±0.25	–40 to +85	14-pin PDIP, 14-pin SOIC

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (µs)	DNL (LSB)	INL (LSB)	Max Operating Current (µA)	Temperature Range (°C)	Packages
MCP47CMB01	8	1	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CMB02	8	2	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CMB11	10	1	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CMB12	10	2	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CMB21	12	1	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CMB22	12	2	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CVB01	8	1	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CVB02	8	2	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CVB11	10	1	I²C	Volatile	V_{DD}, Ext, Int	16	±0.25	±0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CVB12	10	2	I²C	Volatile	V_{DD}, Ext, Int	16	±0.25	±0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CVB21	12	1	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP47CVB22	12	2	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CMB01	8	1	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CMB02	8	2	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CMB11	10	1	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CMB12	10	2	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CMB21	12	1	I²C	MTP	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CMB22	12	2	I²C	MTP	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CVB01	8	1	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CVB02	8	2	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CVB11	10	1	I²C	Volatile	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (µs)	DNL (LSB)	INL (LSB)	Max Operating Current (µA)	Temperature Range (°C)	Packages
MCP48CVB12	10	2	I²C	Volatile	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CVB21	12	1	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48CVB22	12	2	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3 × 3 DFN, 16-pin 3 × 3 QFN, 10-pin MSOP
MCP48FEB01	8	1	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	180	–40 to +125	8-pin MSOP
MCP48FEB11	10	1	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	180	–40 to +125	8-pin MSOP
MCP48FEB21	12	1	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	180	–40 to +125	8-pin MSOP
MCP48FEB02	8	2	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	380	–40 to +125	8-pin MSOP
MCP48FEB12	10	2	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	380	–40 to +125	8-pin MSOP
MCP48FEB22	12	2	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	380	–40 to +125	8-pin MSOP
MCP48FVB01	8	1	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	180	–40 to +125	8-pin MSOP
MCP48FVB11	10	1	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	180	–40 to +125	8-pin MSOP
MCP48FVB21	12	1	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	180	–40 to +125	8-pin MSOP
MCP48FVB02	8	2	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	380	–40 to +125	8-pin MSOP
MCP48FVB12	10	2	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	380	–40 to +125	8-pin MSOP
MCP48FVB22	12	2	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	380	–40 to +125	8-pin MSOP
MCP47FEB01	8	1	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	180	–40 to +125	8-pin MSOP
MCP47FEB11	10	1	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.5	1.5	180	–40 to +125	8-pin MSOP
MCP47FEB21	12	1	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	1	6	180	–40 to +125	8-pin MSOP
MCP47FEB02	8	2	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	380	–40 to +125	8-pin MSOP
MCP47FEB12	10	2	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.5	1.5	380	–40 to +125	8-pin MSOP
MCP47FEB22	12	2	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	1	6	380	–40 to +125	8-pin MSOP
MCP47FVB01	8	1	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	180	–40 to +125	8-pin MSOP
MCP47FVB11	10	1	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.5	1.5	180	–40 to +125	8-pin MSOP
MCP47FVB21	12	1	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	1	6	180	–40 to +125	8-pin MSOP
MCP47FVB02	8	2	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	380	–40 to +125	8-pin MSOP
MCP47FVB12	10	2	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.25	1.5	380	–40 to +125	8-pin MSOP
MCP47FVB22	12	2	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	1	6	380	–40 to +125	8-pin MSOP
MCP47DA1	6	1	I²C	Volatile	V_{REF}	6	0.35	0.7	160	–40 to +125	6-pin SOT23, 6-pin SC70
MCP4706	8	1	I²C	EEPROM	V_{DD}, V_{REF}	6	0.05	0.907	400	–40 to +125	6-pin SOT23, 6-pin 2 × 2 DFN
MCP4716	10	1	I²C	EEPROM	V_{DD}, V_{REF}	6	0.188	3.625	400	–40 to +125	6-pin SOT23, 6-pin 2 × 2 DFN
MCP4726	12	1	I²C	EEPROM	V_{DD}, V_{REF}	6	0.75	14.5	400	–40 to +125	6-pin SOT23, 6-pin 2 × 2 DFN
MCP4725	12	1	I²C	EEPROM	V_{DD}	6	0.75	14.5	400	–40 to +125	6-pin SOT23
MCP4728	12	4	I²C	EEPROM	V_{DD}, V_{BG}	6	0.75	13	1400	–40 to +125	10-pin MSOP
MCP4801	8	1	SPI	Volatile	V_{BG}	4.5	0.5	1	400	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4811	10	1	SPI	Volatile	V_{BG}	4.5	0.5	3.5	400	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4821	12	1	SPI	Volatile	V_{BG}	4.5	0.75	12	400	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4802	8	2	SPI	Volatile	V_{BG}	4.5	0.5	1	400	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4812	10	2	SPI	Volatile	V_{BG}	4.5	0.5	3.5	400	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4822	12	2	SPI	Volatile	V_{BG}	4.5	0.75	12	400	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4901	8	1	SPI	Volatile	V_{BG}	4.5	0.5	1	350	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4911	10	1	SPI	Volatile	V_{BG}	4.5	0.5	3.5	350	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4921	12	1	SPI	Volatile	V_{BG}	4.5	0.75	12	350	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4902	8	2	SPI	Volatile	V_{BG}	4.5	0.5	1	350	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4912	10	2	SPI	Volatile	V_{BG}	4.5	0.5	3.5	350	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP
MCP4922	12	2	SPI	Volatile	V_{BG}	4.5	0.75	12	350	–40 to +125	8-pin MSOP, 8-pin 2 × 3 DFN, 8-pin SOIC, 8-pin PDIP

INTERFACE AND NETWORKING

INTERFACE AND NETWORKING: CAN Products

Part #	Description and Features	Operating Voltage (V)	Temperature Range (°C)	Tx Buffers	Rx Buffers	Filters	Masks	Interrupt Output	Packages
ATA6560	CAN Transceiver with stand-by and silent mode, 5V I/O, CAN FD ready, 5 Mbps, AECQ100 Grade 1	4.5 to 5.5	–40 to +125	N/A	N/A	N/A	N/A	N/A	8-pin DFN, 8-pin SOIC
ATA6561	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 5 Mbps, AECQ100 Grade 1	4.5 to 5.5	–40 to +125	N/A	N/A	N/A	N/A	N/A	8-pin DFN, 8-pin SOIC
ATA6562	CAN Transceiver with stand-by and silent mode, 5V I/O, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A	8-pin DFN, 8-pin SOIC
ATA6563	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A	8-pin DFN, 8-pin SOIC
ATA6564	CAN Transceiver with silent mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A	8-pin DFN, 8-pin SOIC
ATA6565	Dual CAN Transceiver with stand-by mode, 5V I/O, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A	14-pin DFN, 14-pin SOIC
ATA6566	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 2 Mbps, AECQ100 Grade 0, 1, suitable for the Japanese market	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A	8-pin DFN, 8-pin SOIC
ATA6570	CAN Partial Networking Transceiver with Wake pin and Window Watchdog, compatible with 3.3V and 5V microcontroller, wake up frame, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.55 to 28	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A	14-pin SOIC
MCP2515	External CAN 2.0B Controller with SPI Interface	2.7 to 5.5	–40 to +125	3	2	6	2	Yes	18-pin PDIP, 18-pin SOIC, 20-pin TSSOP
MCP2517FD	External CAN FD Controller with SPI Interface, ISO 11898-1:2015 Compliant, 32-bit Time Stamp, Supports CAN 2.0B and CAN FD, Highly Configurable 31 FIFOs and 32 Filters	2.7 to 5.5	–40 to +150	Up to 32	Up to 32	32	32	1 to 3	14-pin SOIC, 14-pin VDFN
MCP2518FD	External CAN FD Controller with SPI Interface, ISO 11898-1:2015 Compliant, 32-bit Time Stamp, Supports CAN 2.0B and CAN FD, Highly Configurable 31 FIFOs and 32 Filters	2.7 to 5.5	–40 to +150	Up to 32	Up to 32	32	32	1 to 3	14-pin SOIC, 14-pin VDFN
MCP25625	Integrated High-Speed CAN Transceiver and CAN 2.0B Controller	2.7 to 5.5	–40 to +125	3	2	6	2	1	28-pin SSOP, 28-pin 6 × 6 QFN

INTERFACE AND NETWORKING: LIN Products

Part #	Description	V_{REG} Output Voltage (V)	Operating Temp. Range (°C)	V_{REG} Output Current (mA)	Supply Voltage Range (V)	Max Baud Rate	LIN Specification Supported	Packages
ATA663211	LIN Transceiver	–	–40 to +125	–	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	8-pin DFN, SO8
ATA6625	LIN Transceiver with integrated V_{REG}	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	8-pin DFN, SO8
ATA663201	LDO, pin compatible with ATA663231 LIN SBC	3.3	–40 to +125	85	5 to 28	–	–	8-pin DFN
ATA663203	LDO, pin compatible with ATA663254 LIN SBC	5.0	–40 to +125	85	5 to 28	–	–	8-pin DFN
ATA663231	LIN Transceiver with integrated V_{REG}	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	8-pin DFN
ATA663232	LIN Transceiver with integrated V_{REG} and Wake Pin	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	8-pin DFN
ATA663254	LIN Transceiver with integrated V_{REG}	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	8-pin DFN, SO8
ATA663255	LIN Transceiver with integrated V_{REG} and Wake Pin	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	8-pin DFN
ATA663331	LIN Transceiver with integrated V_{REG} and 2 relay driver	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	16-pin DFN
ATA663354	LIN Transceiver with integrated V_{REG} and 2 relay driver	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	16-pin DFN
ATA663431	LIN Transceiver with integrated V_{REG}, WWDT	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	16-pin DFN
ATA663454	LIN Transceiver with integrated V_{REG}, WWDT	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	16-pin DFN
ATSAMHA1G16A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	48-pin QFN
ATSAMHA1G15A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	48-pin QFN
ATSAMHA1G14A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	48-pin QFN
ATSAMHA0G16A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	48-pin QFN
ATSAMHA0G15A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	48-pin QFN
ATSAMHA0G14A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	48-pin QFN
ATSAMHA1E16A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	32-pin QFN
ATSAMHA1E15A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	32-pin QFN
ATSAMHA1E14A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	32-pin QFN
ATSAMHA0E16A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	32-pin QFN
ATSAMHA0E15A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	32-pin QFN
ATSAMHA0E14A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1, 2.2, 2.2A, SAEJ2602-2	32-pin QFN

INTERFACE AND NETWORKING: Ethernet products

Product	Bandwidth	Interface (Upstream)	Wake-On-LAN	EEE	Temperature*	Packages
Ethernet Controllers						
ENC28J60	10	SPI	–	–	I	28-pin SPDIP, SSOP, SOIC, QFN
ENC624J600	10/100	SPI/Parallel	–	–	I	24-pin TQFN, QFN, 64-pin TQFN
LAN9217	10/100	16-bit Host Bus/MII	–	–	–	100-pin TQFP
LAN9218	10/100	32-bit Host Bus	–	–	I	100-pin TQFP
LAN9220/1	10/100	16-bit Host Bus	–	–	I	56-pin QFN
LAN9250	10/100	SPI, SQI™, HBI	✓	✓	I	64-pin QFN, 64-pin TQFP-EP
LAN9420	10/100	32-bit PCI 3.0	–	–	I	128-pin VTQFP
LAN89218	10/100	32-bit Host Bus	–	–	A, I	100-pin TQFP
KSZ8851	10/100	8-/16-/32-bit or SPI	✓	–	A, I	32-pin QFN, 48-pin LQFP, 128-pin PQFP
KSZ8852	10/100	8-/16-/32-bit	✓	✓	I	64-pin LQFP
KSZ8441	10/100	8-/16-/32-bit or SPI	✓	✓	I	64-pin LQFP
Ethernet Bridges						
LAN9500A	10/100	USB 2.0	✓	–	I	56-pin QFN
LAN9730	10/100	USB 2.0 (HSIC)/MII	–	–	I	56-pin QFN
LAN9512/13/14	10/100	USB 2.0	–	–	I	64-pin QFN
LAN89530	10/100	USB 2.0	✓	–	A, I	56-pin QFN
LAN89730	10/100	HSIC	✓	–	I	56-pin QFN
LAN7430	Gigabit	PCIe 3.1	✓	✓	I	48-pin VQFN
LAN7431	Gigabit	PCIe 3.1 RGMII	–	✓	A	72-pin VQFN
LAN7500	Gigabit	USB 2.0	✓	–	I	56-pin QFN
LAN7800/01/50	Gigabit	USB 3.1/USB 2.0/HSIC	✓	✓	A, I	48-pin SQFN, 64-pin SQFN, 66-pin SQFN
Ethernet Transceivers (PHYs)						
KSZ9031	Gigabit	MII/RMII/RGMII	✓	–	A, I	48-/64-pin QFN
LAN8810	Gigabit	GMII	–	–	I	72-pin QFN
LAN8820	Gigabit	RGMII	–	–	I	56-pin QFN
KSZ8061	10/100	MII/RMII	✓	✓	A, I	32-/48-pin QFN
KSZ8081	10/100	MII/RMII	–	–	I	24-/32-pin QFN, 48-pin LQFP
KSZ8091	10/100	MII/RMII	✓	✓	I	24-/32-pin QFN, 48-pin LQFP
KSZ8051	10/100	MII/RMII	–	–	A, I	32-pin QFN
LAN8710A	10/100	MII/RMII	–	–	I	32-pin QFN
LAN8720A	10/100	RMII	–	–	I	24-pin QFN
LAN8740A	10/100	MII/RMII	✓	✓	I	32-pin QFN
LAN8741A	10/100	MII/RMII	–	✓	I	32-pin QFN
LAN8742A	10/100	RMII	✓	–	I	24-pin QFN
LAN88730	10/100	MII/RMII	–	–	A, I	32-pin QFN

INTERFACE AND NETWORKING: Ethernet products

Product	Bandwidth	Ports	Interface (Upstream)	1588–v2	Cable Diags	100 Fx	Temperature*	Packages
EtherCAT® Controllers								
LAN9252	10/100	2/3	SPI, SQI™, 8-/16-/32-bit host bus	Clock Sync.	✓	✓	I	64-pin QFN, 64-pin TQFP-EP

INTERFACE AND NETWORKING: Ethernet products

Product	Bandwidth	Ports	Interface (Upstream)	1588–v2	Cable Diags	100 Fx	Temperature*	Packages
Ethernet Switches								
LAN9352	10/100	2	SPI/SQI/HBI	✓	✓	–	I	72-pin QFN, 80-pin TQFP-EP
LAN9303	10/100	3	MII/RMII/Turbo MII	–	–	✓	I	56-pin QFN, 72-pin QFN
LAN89303	10/100	3	MII/RMII/Turbo MII	–	–	✓	A, I	56-pin QFN
LAN9353	10/100	3	MII/RMII/Turbo MII	✓	✓	✓	I	64-pin QFN, 64-pin TQFP-EP
LAN9354	10/100	3	RMII	✓	✓	✓	I	56-pin QFN
LAN9355	10/100	3	MII/RMII/Turbo MII	✓	✓	✓	I	64-pin QFN, 64-pin TQFP-EP
KSZ8863	10/100	3	MII/RMII	–	✓	✓	I	48-pin LQFP
KSZ8873	10/100	3	MII/RMII	–	✓	✓	A, I	64-pin VQFN
KSZ8463	10/100	3	MII/RMII	✓	✓	✓	I	64-pin LQFP
KSZ8864	10/100	4	MII/RMII	–	✓	–	A, I	64-pin VQFN
KSZ8794	10/100	4	MII/GMII/RGMII	–	✓	–	I	64-pin VQFN
KSZ8795	10/100	5	GMII/RGMII/MII/RMII	–	✓	–	I	80-pin LQFP
KSZ8775	10/100	5	MII/GMII/RGMII	–	✓	–	I	80-pin LQFP
KSZ8765	10/100	5	MII/GMII/RGMII	–	✓	✓	I	64-pin QFN, 80-pin LQFP
KSZ8895	10/100	5	MII/RMII	–	✓	–	I	128-pin LQFP
KSZ8567	10/100	5, 7	SGMII/RGMII/MII/RMII	✓	LinkMD®+ with signal quality indicator	with SGMII	A, I	64-pin QFN, 128-pin LQFP
KSZ9563	10/100/1000	3	RGMII/MII/RMII	✓	✓	–	I	64-pin VQFN
KSZ9893	10/100/1000	3	RGMII/MII/RMII	–	✓	–	I	64-pin VQFN
KSZ8563	10/100	3	RGMII/MII/RMII	✓	✓	–	I	64-pin VQFN
KSZ9897	10/100/1000	6, 7	SGMII/RGMII/MII/RMII	–	✓	with SGMII	I	64-pin QFN, 128-pin LQFP
KSZ9567	10/100/1000	7	SGMII/RGMII/MII/RMII	✓	LinkMD+ with signal quality indicator	with SGMII	I	64-pin QFN, 128-pin LQFP
KSZ9477	10/100/1000	7	SGMII/RGMII/MII/RMII	1588 + HSR/ DLR	LinkMD+ with signal quality indicator	with SGMII	I	128-pin LQFP

Note: All products above are supported with 3.3V operating voltage *A = Automotive temperature range, (–40° to +105°C) I = Industrial temperature range (–40° to +85°C)

INTERFACE AND NETWORKING: Serial Peripherals

Part #	Description	Operating Voltage (V)	Operating Temp. Range (°C)	Bus Type	Max Bus Frequency (kHz)	Features	Packages
MCP23008	8-bit I/O Port Expander	1.8 to 5.5	–40 to +85	I²C	1700	Three HW address pins, HW interrupt, 25 mA source/sink capability per I/O	18-pin PDIP, 18-pin SOIC, 20-pin SSOP, 20-pin 4 × 4 QFN
MCP23S08	8-bit I/O Port Expander	1.8 to 5.5	–40 to +85	SPI	10000	Two HW address pins, HW interrupt, 25 mA source/sink capability per I/O	18-pin PDIP, 18-pin SOIC, 20-pin SSOP, 20-pin 4 × 4 QFN
MCP23009	8-bit I/O Port Expander	1.8 to 5.5	–40 to +125	I²C	3400	One HW address pin, HW interrupt, 25 mA source/sink per I/O, 100 kHz, 400 kHz and 3.4 MHz I²C supported	18-pin PDIP, 18-pin SOIC, 20-pin SSOP
MCP23S09	8-bit I/O Port Expander	1.8 to 5.5	–40 to +125	SPI	10000	HW interrupt, 25 mA source/sink per I/O	18-pin PDIP, 18-pin SOIC
MCP23016	16-bit I/O Port Expander	2.0 to 5.5	–40 to +85	I²C	400	Three HW address inputs, HW interrupt, 25 mA source/sink capability per I/O	28-pin PDIP, 28-pin SOIC, 28-pin SSOP, 28-pin 6 × 6 QFN
MCP23017	16-bit I/O Expander	1.8 to 5.5	–40 to +125	I²C	1700	Three HW address pins, 25 mA sink/source per I/O, 100 kHz, 400 kHz and 3-4 MHz I²C supported, Interrupt output	28-pin PDIP, 28-pin SOIC, 28-pin SSOP, 28-pin QFN
MCP23S17	16-bit I/O Expander	1.8 to 5.5	–40 to +125	SPI	10000	Three HW address pins, 25 mA sink/source per I/O, Interrupt output	28-pin PDIP, 28-pin SOIC, 28-pin SSOP, 28-pin QFN
MCP23018	16-bit I/O Port Expander	1.8 to 5.5	–40 to +125	I²C	3400	One HW address pin, 2 HW interrupts, 25 mA source/sink per I/O, 100 kHz, 400 kHz and 3.4 MHz I²C supported	24-pin SSOP, 28-pin SOIC, 28-pin SDIP
MCP23S18	16-bit I/O Port Expander	1.8 to 5.5	–40 to +125	SPI	10000	Two HW interrupts, 25 mA source/sink per I/O	28-pin SOIC, 28-pin SDIP

INTERFACE AND NETWORKING: Wi-Fi® Modules

Part #	Radio	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	Power Consumption (mA)		Sleep	MAC Features	Protocols	Encryption	Interface	Packages
							Tx	Rx						
MRF24WG0MA	802.11 b/g	36	PCB	2.412–2.484	–95	+18	240	156	0.1 mA[1]	802.11b/g, Wi-Fi Direct, SoftAP, WPS	Wi-Fi Connection Manager, Announce, DNS, DDNS, DHCP, FTP, HTTP, NBNS, SNMP, SNTP, SSL, TCP, UDP, ZeroConf[2]	WPA2-PSK, WPA-PSK, WEP, WPA-2-ENTERPRISE	4-wire SPI	36/Module (21.0 × 31.0 mm)
WINC1500-MR210PB	802.11 b/g/n	28	PCB, U.FL	2.412–2.472	–94	+18.5	250	57	380 µA	802.11b/g/n, SoftAP, Wi-Fi Direct	TCP, UDP, DHCP, ARP, HTTP, SSL, DNS	WEP, WPA, WPA2 Security	SPI, UART, I²C	28/module (21.5 × 14.5 mm)

INTERFACE AND NETWORKING: Wi-Fi® Modules

Part #	Radio	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	Power Consumption (mA)		Sleep	MAC Features	Protocols	Encryption	Interface	Packages
							Tx	Rx						
SAMW25	802.11 b/g/n	51	–	2.412–2.472	–94	+17	250	57	380 µA	802.11b/g/n, SoftAP, Wi-Fi Direct, station mode	DHCP, DNS, TCP/IP (IPv4), UDP, HTTP, HTTPS	WEP, WPA/WPA2 Personal, TLS, SSL	SPI, UART	51/module (33.86 × 14.88 mm)

Note 1: Indicates "off" current **Note 2:** Supported in the provided stack

INTERFACE AND NETWORKING: High-Linearity 2.4-GHz Amplifiers

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Current @ Po (mA)	Package (mm)
LX5511	2.3–2.5	n	PA + PDET	26.0	20	3.0	3.3	170	16-pin QFN, 3 × 3 × 0.9
LX5535	2.4–2.5	n	PA + PDET	32.0	24.5	3.0	3.3–5	260	16-pin QFN, 3 × 3 × 0.9
LX5518	2.4–2.5	n	PA + PDET	30.0	26	3.0	3.3–5	390	16-pin QFN, 3 × 3 × 0.9
LX5602	2.4–2.5	n	PA, Filtering, PDET	30.0	26	3.0	5	440	16-pin QFN, 3 × 3 × 0.9
LX5533	2.4–2.5	ac	PA, Filtering, PDET	30.0	24	1.8	5	380	16-pin QFN, 3 × 3 × 0.9

INTERFACE AND NETWORKING: High-Linearity 5-GHz Amplifiers

LX5530	4.9–5.9	n	PA + PDET	28.0	22	3.0	3.3–5	360	16-pin QFN, 3 × 3 × 0.9
LX5531	5.15–5.85	n	PA, Filtering, PDET	33.0	25	3.0	5	350	20-pin QFN, 4 × 4 × 0.9
		ac			23	1.8	5	290	

INTERFACE AND NETWORKING: Low-Noise Amplifiers

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Noise Figure (dB)	IIP3 (dBm)	Current @ Po (mA)	Vcc (V)	Package (mm)
LX5561	2.4–2.5	b/g/n/ac	LNA	13	1.5	6.5	10.5	3.3	12-pin QFN, 2 × 2 × 0.5
LX5560	4.9–6.0	a/n/ac	LNA	12	1.7	6	9.5	3.3	12-pin QFN, 2 × 2 × 0.5
LX5563	2.4–2.5	b/g/n/ac	LNA + Bypass	14	1.3	7.5	9	3.3	6-pin DFN, 1.5 × 1.5 × 0.5
LX5575	5.15–5.85	a/n/ac	LNA + Bypass	12	1.7	12	9	3.3–5	16-pin QFN, 2.5 × 2.5 × 0.45

INTERFACE AND NETWORKING: Dual-Band Front-End Modules

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Current @ Po (mA)	Package (mm)
LX5591	2.4–2.5	n	Dual-Band PA + PDET + LNA with Bypass + SPDT	30	18	3.0	3.3	210	QFN-28, 4×3×0.9
		ac			16	1.8		190	
	5.15–5.85	n		27	18	3.0	3.3	260	
		ac			16	1.8		230	

INTERFACE AND NETWORKING: Single-Band, High-Linearity Front-End Modules

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Current @ Po (mA)	Package (mm)
LX5551	2.4–2.5	n	PA + SPDT + PDET	27	18	3.0	3.3	140	QFN-16, 3×3×0.9
LX5584A	2.4–2.5	n	PA + Log DET + LNA with bypass + SP3T	30	19	3.0	3.3	220	QFN-16, 3×3×0.9
		ac			18	1.8	3.3	200	
LX5584B	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	33	21	3.0	5.0	260	QFN-16, 3×3×0.9
		ac			20	1.8	5.0	240	
LX5584H	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	33	21	3.0	5.0	260	QFN-16, 2.5×2.5×0.9
		ac			20	1.8	5.0	240	
LX5586	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	17.0	3.0	3.3	200	QFN-16, 2.5×2.5×0.4
		ac			16.0	1.8	3.3	185	
LX5586A	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	17.5	3.0	3.3	200	QFN-16, 2.5×2.5×0.45
		ac			16.5	1.8	3.3	185	
LX5586H	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	20	3.0	5.0	230	QFN-16, 2.5×2.5×0.45
		ac			19	1.8	5.0	210	
LX5589A	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	30	18	3.0	3.3	210	QFN-16, 2.5×2.5×0.9
		ac			17	1.8	3.3	190	
LX5589H	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	32	22	3.0	5.0	250	QFN-16, 2.5×2.5×0.9
		ac			20	1.8	5.0	230	
LX5589B	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	32	22	3.0	5.0	250	QFN-16, 3×3×0.9
		ac			20	1.8	5.0	230	

INTERFACE AND NETWORKING: Bluetooth® Modules

Part #	Bluetooth Spec	Module Type	No Shield Option	Rx Sensitivity (dBm)	Power Output (dBm) (typ.)	Sleep	Profiles	Interface	Pin Count	Anthenna	Packages (Dimensions)
BM62	5.0	Stereo Audio	Yes	–90	2	–	HFP, HSP, A2DP, AVRCP, SPP	UART	37	PCB	29 × 15 × 2.5 mm
BM63	5.0	Stereo Audio	No	–89	2	–	HFP, HSP, A2DP, AVRCP, SPP	UART	48	PCB	32 × 15 × 2.5 mm
BM64	5.0	Stereo Audio	Yes	–90	15	–	HFP, HSP, A2DP, AVRCP, SPP	UART, I²C	43	PCB	32 × 15 × 2.5 mm
BM20	5.0	Audio	Yes	–91	4	System Off 2 µA	HFP, HSP, A2DP, AVRCP, SPP, PCAP	Analog audio out, mic in, line in, UART	40	PCB	29 × 15 × 2.5 mm
BM23	5.0	Audio	Yes	–91	4	System Off 2 µA	HFP, HSP, A2DP, AVRCP, SPP, PCAP	I²S Digital audio out, mic in, line in, UART	43	PCB	29 × 15 × 2.5 mm
RN4870	5.0	BLE	Yes	–90	0	–	L2CAP, ATT, GATT, GAP, Integrated Public Profiles	UART, i²C	33	Chip	22 × 12 × 2.4 mm
RN4871	5.0	BLE	Yes	–90	0	–	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI	16	Chip	11.5 × 9 × 2.1 mm
RN4678	5.0	Data, Dual-Mode	Yes	–90 BR/EDR –92 LE	2	Deep Power Down 130 µA	BT3.0: GAP, SPP, SPD, RFCOMM, L2CAP BT4.2: GAP, GATT, ATT, SMP, L2CAP	UART, I²C	33	Chip, RF Pad	22 × 12 × 2.4 mm
BM70	5.0	Data, Single-Mode BLE	Yes	–90	0	Power saving 1 µA	GAP, GATT, SM, L2CAP, Integrated public profiles	UART, I²C, SPI, ADC, PWM, GPIOs	33	Chip, RF Pad	22 × 12 × 2.4 mm 25 × 12 × 1.8 mm

INTERFACE AND NETWORKING: Bluetooth® Modules

Part #	Bluetooth Spec	Module Type	No Shield Option	Rx Sensitivity (dBm)	Power Output (dBm) (typ.)	Sleep	Profiles	Interface	Pin Count	Anthenna	Packages (Dimensions)
BM71	5.0	Data, Single-Mode BLE	Yes	–90	0	Power saving 1 µA	GAP, GATT, SM, L2CAP, Integrated public profiles	UART, I²C, SPI, ADC, PWM, GPIOs	17	Chip, RF Pad	9 × 11.5 × 2.1 mm 6 × 8 × 1.6 mm
RN4020	4.1	Data, Single-Mode BLE	No	–92.5	7	Dormant < 700 nA, deep sleep < 5.0 µA	GAP, GATT, SM, L2CAP, integrated public profiles	UART, PIO, AIO, SPI	24	PCB	11.5 × 19.5 mm
BM78	5.0	Data, Dual-Mode	Yes	–90 (BR/EDR) –92 LE	2	Deep Power Down 130 µA	BT3.0: GAP, SPP, SDP, RFCOMM, L2CAP BT4.2: GAP, GATT, ATT, SMP, L2CAP	UART, I²C, GPIOs	33	Chip, RF Pad	22 × 12 × 2.4 mm 25 × 12 × 1.8 mm
SAMB11-MR210CA	5.0	BLE	No	–95	1.15 µA	2 µA	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI	39	Chip	22.88 × 15.36 mm
BTLC1000-MR110CA	5.0	BLE	No	–95	1.15 µA	1 µA	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI	24	Chip	12.70 × 20.15 mm

INTERFACE AND NETWORKING: IEEE 802.15.4 zigbee® RF Transceiver Products

Part #	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	Tx Power Consumption (mA)	Rx Power Consumption (mA)	Clock (MHz)	Sleep	MAC	MAC Features	Encryption	Interface	Packages
MRF24J40	40	–	2.405 to 2.48	–95	0	Yes	23	19	20	2 µA	Yes	CSMA-CA	AES128	4-wire SPI	40-pin QFN
MRF24J40MA	12	PCB	2.405 to 2.48	–94	0	Yes	23	19	20	2 µA	Yes	CSMA-CA	AES128	4-wire SPI	12/Module
MRF24J40MD	12	PCB	2.405 to 2.48	–104	+19	Yes	140	32	20	10 µA	Yes	CSMA-CA	AES128	4-wire SPI	12/Module
MRF24J40ME	12	U.FL	2.405 to 2.48	–104	+19	Yes	140	32	20	10 µA	Yes	CSMA-CA	AES128	4-wire SPI	12/Module

INTERFACE AND NETWORKING: Sub-GHz Transceivers/Modules

Part #	Pin Count	Frequency Range (MHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	Tx Power Consumption (mA)	Rx Power Consumption (mA)	Clock (MHz)	Sleep	Interface	Packages
MRF89XA	32	868/915/950	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz	0.1 µA	4-wire SPI	32-pin TQFN
MRF89XAM8A	12	868	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz	0.1 µA	4-wire SPI	12/Module
MRF89XAM9A	12	915	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz	0.1 µA	4-wire SPI	12/Module

INTERFACE AND NETWORKING: Sub-GHz Transmitters

Part #	Pin Count	Frequency Range (MHz)	Modulation	Data Rate (Kbps)	Tx Power (dBm)	Operating Voltage (V)	Packages
MICRF114	6	285–445	OOK	115.2 (NRZ), 57.6 (Manchester Encoded)	10	1.8–3.6	6-pin SOT-23
MICRF113	6	300–450	ASK	20	10	1.8–3.6	6-pin SOT-23
MICRF112	10	300–450	ASK/FSK	50 (ASK), 10 (FSK)	10	1.8–3.6	10-pin MSOP, 10-pin DFN

INTERFACE AND NETWORKING: Sub-GHz Receivers

Part #	Pin Count	Frequency Range (MHz)	Modulation	Data Rate (Kbps)	Sensitivity (dBm)	RSSI	Rx Power Consumption (mA)	Sleep	Interface	Packages
MICRF219A	16	300–450	ASK/OOK	20	–110	Yes	4.3	15 µA	Serial Output	16-pin QSOP
MICRF220	16	300–450	ASK/OOK	20	–110	Yes	4.3	N/A	Serial Output	16-pin QSOP
MICRF221	16	850–950	ASK/OOK	10	–109	Yes	9	15 µA	Serial Output	16-pin QSOP
MICRF229	16	400–450	ASK/OOK	20	–112	Yes	6	15 µA	Serial Output	16-pin QSOP
MICRF230	16	400–450	ASK/OOK	20	–112	Yes	6	N/A	Serial Output	16-pin QSOP

INTERFACE AND NETWORKING: MCU Transmitters

Part #	Pin Count	Frequency Range (MHz)	Program Memory (Bytes)	EEPROM (bytes)	RAM (bytes)	Digital Timer	Watch Dog Timer	Max Speed (MHz)	ICSP	Modulation	Data Rate (kbps)	Output Power (dBm)	Operating Voltage (V)	Packages
PIC12F529T39A	6	310–928	2.3K	64	201	1	1	8	Yes	OOK/FSK	100	10	2.0–3.7	14-pin TSSOP
PIC12LF1840T39A	6	310–928	7.1K	256	256	2	1	32	Yes	OOK/FSK	100	10	1.8–3.6	14-pin TSSOP
PIC16LF1824T39A	20	310–928	4K	256	256	1	1	32	Yes	OOK/FSK	100	10	1.8–3.6	20-pin TSSOP
rfPIC12F675F	6	380–450	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10	2.0–5.5	20-pin SSOP
rfPIC12F675H	6	850–930	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10	2.0–5.5	20-pin SSOP
rfPIC12F675K	6	290–350	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10	2.0–5.5	20-pin SSOP

INTERFACE AND NETWORKING: USB Bridge Devices

Part #	USB Speed	USB Compliant	PHY	MCU Interface	Tx/Rx Buffer Size (bytes)	Number of GPIO	Operating Voltage (V)	Packages
MCP2200	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	UART	128/128	8	2.7 to 5.5	20-pin SOIC, 20-pin TSSOP, 20-pin QFN
MCP2210	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	SPI	64	9	3.3 to 5.5	20-pin SOIC, 20-pin TSSOP, 20-pin QFN
MCP2221	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	I²C	64	4	3.0 to 5.5	14-pin PDIP, 14-pin SOIC, 14-pin TSSOP, 16-pin QFN

INTERFACE AND NETWORKING: USB Products

Part #	Description	Processor Interface	# of Downstream Ports	Card Formats	Industrial Version	Packages
USB Hub Controllers						
USB2412	Hi-Speed USB 2.0 2-Port Hub	USB 2.0	2	–	–	28-pin QFN
USB2422	Small-footprint, 2-Port Value Hub, Commercial and Industrial Temperature with USB Battery Charging 1.1	USB 2.0	2	–	✓	24-pin QFN
USB251XB/ USB2517	Hi-Speed USB 2.0 Hub with Battery Charger Detection	USB 2.0	2, 3, 4, 7 port options	–	✓, Automotive	36 or 64-pin QFN
USB2524	4-Port Hi-Speed USB 2.0 Multi-Switch Hub	USB 2.0 × 2	4	–	–	56-pin QFN
USB3503	3-Port Hi-Speed USB 2.0 HSIC Hub for Mobile Applications	HSIC	3	–	✓	25-ball WLCSP
USB3803	3-Port Hi-Speed USB 2.0 Hub for Mobile Applications	USB 2.0	3	–	✓	25-ball WLCSP
USB3X13	3-Port Hi-Speed USB 2.0 Smart Hub for Mobile Applications	USB 2.0 or HSIC	3 (USB 2.0 ×2/HSIC ×1)	–	✓	30-ball WLCSP
USB253X	Hi-Speed USB 2.0 Controller Hub with Battery Charger Detection	USB 2.0	2, 3, 4 port options	–	✓	36-pin QFN
USB46X4	Hi-Speed USB 2.0 Controller Hub with USB and HSIC Interfaces	USB 2.0 or HSIC	4 (USB 2.0 ×4 or USB 2.0 ×2/HSIC ×2)	–	✓, Automotive	48-pin QFN
USB553XB	SuperSpeed USB 3.0 Hub with Battery Charger Detection	USB 3.0	2, 3, 4 or 7 port options	–	✓	64 or 72-pin QFN
USB5734	SuperSpeed USB 3.1 Gen1 Smart Hub Controller with I/O Bridging and FlexConnect	USB 3.1 Gen1	4	–	✓, Automotive	64-pin QFN
USB5744	SuperSpeed USB 3.1 Gen1 Small Form Factor Hub Controller	USB 3.1 Gen1	4	–	✓	56-pin QFN
USB-C™ Power and Charging						
UTC200X	USB-C Controller	I/O	1 DFP or 1 UFP	–	✓, Automotive	16-pin QFN
USB Transceivers/Switches						
USB333X	Mobile Hi-Speed USB 2.0 Transceiver with Multi-frequency Support	ULPI	–	–	✓	25-ball WLCSP
USB334X	Hi-Speed USB 2.0 Transceiver with Multi-frequency Support	ULPI	–	–	Automotive	24 or 32-pin QFN
USB3300	Hi-Speed USB 2.0 Transceiver (24 MHz reference clock support)	ULPI	–	–	✓	32-pin QFN
USB3740B	Hi-Speed USB 2.0 Switch with Extremely Low Power	USB 2.0	–	–	✓	10-pin QFN
USB375XA-X	Hi-Speed USB 2.0 Port Protection with Switch and Charger Detection	USB 2.0	–	–	✓	16-pin QFN

INTERFACE AND NETWORKING: USB Products (Continued)

Part #	Description	Processor Interface	# of Downstream Ports	Card Formats	Industrial Version	Packages
USB Flash Media Controllers						
USB224X	Hi-Speed USB 2.0 Multi-Format Flash Media Controller	USB 2.0	–	SD™/MMC/eMMC™/MS/xD	✓	36-pin QFN
USB225X	Hi-Speed USB 2.0 Multi-Format Flash Media Controller	USB 2.0	–	SD/MMC/eMMC/MS/xD/CF	✓	128-pin VTQFP
USB264X	Hi-Speed USB 2.0 Multi-Format Flash Media Hub Controller	USB 2.0	2	SD/MMC/eMMC/MS/xD	✓ (Automotive)	48-pin QFN
USB2660	Hi-Speed USB 2.0 Multi-Format Flash Media Hub Controller	USB 2.0	2	SD/MMC/eMMC/MS/xD (×2)	✓	64-pin QFN
USB4640	Hi-Speed USB 2.0 Multi-Format Flash Media HSIC Hub Controller	HSIC	2	SD/MMC/eMMC/MS/xD	✓	48-pin QFN
USB Security						
SEC1110	Smart Card Controller	USB 2.0	–	Smart Card	✓	16-pin QFN
SEC1210	Smart Card Controller with Multi-Interface Support	USB 2.0	–	Smart Card ×2	✓	24-pin QFN

INTERFACE AND NETWORKING: Real-Time Clock/Calendar (RTCC)

Bus	Product	Pins	Timing Features				Memory[1]			Power		Unique Features[2]	5 ku Pricing†	Packages
			Digital Trimming (Adj./Range)	Alarm Settings	WDT	Outputs	SRAM (Bytes)	EEPROM (Kbits)	Protected EEPROM (bits)	Min V_{CC}	Min I_{BAT}			
I²C	MCP7940M	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	0	0	1.8	–	–	$0.46	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY), PDIP (P)
	MCP7940N	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	0	0	1.8	1.3	Power Fail Timestamp	$0.59	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY), PDIP (P)
	MCP7940X	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	0	64	1.8	1.3	Power Fail Timestamp	$0.66	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)
	MCP7941X	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	1	64	1.8	1.3	Power Fail Timestamp	$0.72	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)
SPI	MCP7951X	10	±255 ppm	0.01 sec.	–	$\overline{IRQ}$/CLK	64	1	128	1.8	1.3	Power Fail Timestamp	$0.90	SOIC (SL), TSSOP (ST)
	MCP7952X	10	±255 ppm	0.01 sec.	–	$\overline{IRQ}$/CLK	64	2	128	1.8	1.3	Power Fail Timestamp	$0.96	MSOP (MS), TDFN (MN)
	MCP795W1X	14	±255 ppm	0.01 sec.	✓	1. CLK, 2. $\overline{IRQ}$, 3. WDT RST	64	1	128	1.8	1.3	Power Fail Timestamp, Event Detects (× 2)	$1.22	SOIC (SL), TSSOP (ST)
	MCP795W2X	14	±255 ppm	0.01 sec.	✓	1. CLK, 2. $\overline{IRQ}$, 3. WDT RST	64	2	128	1.8	1.3	Power Fail Timestamp, Event Detects (× 2)	$1.28	SOIC (SL), TSSOP (ST)

Note 1: All part numbers with an "X" have three protected EEPROM programming options: [0 = Blank ID], [1 = EUI-48™ MAC Address], [2 =EUI-64™ MAC Address]

2: The Power Fail Timestamp in all RTCCs occur at Battery Switchover.

CO AND SMOKE DETECTOR ICS

CO AND SMOKE DETECTOR ICS: Photoelectric Smoke Detector ICs

Part #	Horn Driver Alarm Pattern	Alarm Memory	Low Battery Detection	Chamber Test	Alarm Interconnect	Sensitivity Timer	Internal POR	Alternate Diagnostic Mode	Operating Temp. Range (°C)	Packages
RE46C140	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	–	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C141	NFPA Temporal	No	Yes	Yes	Yes	–	Yes	–	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C143	Continuous Tone	No	Yes	Yes	Yes	–	Yes	–	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C144	Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C145	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	Yes	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C165	NFPA Temporal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C166	Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C167	NFPA Temporal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C168	Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–25 to +75	16-pin PDIP, 16-pin SOIC
RE46C190	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–	–10 to +60	16-pin SOIC
RE46C191	NFPA Temporal or Continous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	–10 to +60	16-pin SOIC
RE46C200	NFPA Temporal or Continous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	–10 to +60	16-pin PDIP, 16-pin SOIC

CO AND SMOKE DETECTOR ICS: Ionization Smoke Detector ICs

Part #	Horn Driver Alarm Pattern	Alarm Memory	Low Battery Detection	Reverse Battery Protection	Alarm Interconnect	Hush Timer	Power-up Low Battery Test	Operating Temp. Range (°C)	Packages
RE46C120	NFPA Temporal or Continuous Tone	No	Yes	Yes	–	–	–	–10 to +60	16-pin PDIP
RE46C121	NFPA Temporal	No	Yes	Yes	Yes	–	–	–10 to +60	16-pin PDIP
RE46C122	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	–10 to +60	16-pin PDIP
RE46C126	Continuous Tone	No	Yes	Yes	Yes	–	–	–10 to +60	16-pin PDIP
RE46C127	Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–10 to +60	16-pin PDIP
RE46C128	NFPA Temporal	No	Yes	Yes	Yes	–	Yes	–10 to +60	16-pin PDIP
RE46C129	Continuous Tone	No	Yes	Yes	Yes	–	Yes	–10 to +60	16-pin PDIP
RE46C152	NFPA Temporal or Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–10 to +60	16-pin PDIP
RE46C162	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–10 to +60	16-pin PDIP
RE46C163	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–10 to +60	16-pin PDIP
RE46C180	NFPA Temporal or Continuous Tone	Yes	Yes	No	Yes	Yes	Yes	–10 to +60	16-pin PDIP, 16-pin SOIC

CO AND SMOKE DETECTOR ICS: Ionization Smoke Detector Front Ends

Part #	Microprocessor Compatible Output	Output Options	Typical Application	Operating Temperature Range (°C)	Packages
RE46C112	Yes	V_{OUT} 1/4 of V_{DD} or V_{OUT} 1/4 of Detect Input	3V or 3.3V Microprocessor	–10 to +60	8-pin PDIP
RE46C114	Yes	V_{OUT} 1/2 of V_{DD} or V_{OUT} 1/2 of Detect Input	5V Microprocessor	–10 to +60	8-pin PDIP
RE46C311	Yes	Op Amp	Ionization Smoke Detector Front End	–10 to +60	8-pin PDIP, 8-pin SOIC
RE46C312	Yes	Op Amp	Ionization Smoke Detector Front End	–10 to +60	8-pin PDIP, 8-pin SOIC

CO AND SMOKE DETECTOR ICS: CO Detectors

Part #	Operating Voltage (V_{DC})	Voltage Regulator (V_{DC})	LED Driver	Horn Driver	Interconnect	Low Battery Detection	Brown Out	Boost Regulator	Op Amp Vos Max (µV)	Op Amp Ib Max (pA)	Op Amp GBWP (kHz)	Op Amp Aol (dB)	Op Amp Slew Rate (V/µS)	Op Amp Unity Gain Stable	Op Amp CMRR Min (dB)	Op Amp Rail-to-Rail	Operating Temp. Range (°C)
RE46C800	2 to 12	3.3	Yes	Yes	Yes	Yes	Yes	Yes	1000	200	10	115	0.003	Yes	80	In/Out	–10 to +60

CO AND SMOKE DETECTOR ICS: Piezoelectric Horn Drivers								
Part #	Operating Voltage (V)	LED Driver	Voltage Regulator (V)	Low Battery Detection	Interconnect	Power Good	Operating Temp. Range (°C)	Packages
RE46C100	6 to 16	–	–	–	–	–	–40 to +85	8-pin PDIP, 8-pin SOIC
RE46C101	6 to 16	Yes	–	–	–	–	–40 to +85	8-pin PDIP, 8-pin SOIC
RE46C104	4 to 8	–	–	–	–	–	0 to +50	14-pin PDIP, 14-pin SOIC
RE46C105	6 to 12	Yes	3.3 or 5	Yes	–	–	–40 to +85	14-pin PDIP, 14-pin SOIC
RE46C107	2 to 5	Yes	3 or 3.3	Yes	–	–	0 to +50	16-pin PDIP, 16-pin SOIC
RE46C108	6 to 12	–	3.3 or 5	–	–	–	–40 to +85	8-pin PDIP, 8-pin SOIC
RE46C109	6 to 12	–	3	Yes	Yes	Yes	–40 to +85	16-pin PDIP, 16-pin SOIC
RE46C117	2 to 5	–	–	–	–	–	0 to +50	8-pin PDIP, 8-pin SOIC
RE46C119	6 to 12	–	3	Yes	Yes	Yes	–40 to +85	16-pin PDIP, 16-pin SOIC
RE46C317	2 to 5	–	–	–	–	–	–10 to +60	8-pin PDIP, 8-pin SOIC
RE46C318	2 to 5	–	–	–	–	–	–10 to +60	8-pin PDIP, 8-pin SOIC

ULTRASOUND

ULTRASOUND: High-Voltage Analog Multiplexers								
Part #	# of Ch. and Configuration	Bleed Resistor	V_{P-P}	R_{ON} (Ω)	C_{SG} On/Off (pF)	I_{SW} (A)	Features	Packages
HV20220	8 SPST	No	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP, 28-Lead PLCC
HV20320	8 SPST	No	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP
HV232	8 SPST	Yes	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP, 28-Lead PLCC
HV219	8 SPST	No	200V	11	50/20	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP, 28-Lead PLCC
HV2201	8 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP, 28-Lead PLCC
HV2301	8 SPST	Yes	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP, 28-Lead PLCC
HV2221	8 SPST	No	V_{PP} range = +15V to +50V, V_{NN} range = –190V to –225V	15	70/18	4	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV2321	8 SPST	Yes	V_{PP} range = +15V to +50V, V_{NN} range = –190V to –225V	15	70/18	4	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV209	6 × 2:1 Mux	Yes	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP
HV20822	2 Banks of 8 channel	No	220V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP
HV238	2 Banks of 8 channel	Yes	220V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency	48-Lead LQFP
HV2601	16 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP, 42-Ball Bumped Die (BD)
HV2701	16 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP, 42-Ball Bumped Die (BD)
HV2605	16 SPST	No	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP, 42-Ball Bumped Die (BD)
HV2705	16 SPST	Yes	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP, 42-Ball Bumped Die (BD)
HV2631	2 Banks of 8 channel	No	220V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV2731	2 Banks of 8 channel	Yes	220V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV2803	32 SPST	No	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency	132-ball TFBGA 12 x 12 mm
HV2903	32 SPST	Yes-2	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency	132-ball TFBGA 12 x 12 mm
HV2904	32 SPST	Yes-1	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency	132-ball TFBGA 12 x 12 mm
HV2070	32 SPST	No	±6V	4.5	20/11	3.7	3.3V Input Logic, 66 MHz Clock Frequency	132-ball TFBGA 10 x 10 mm
HV2733	8 SPDT	Yes	200V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV2661	8 × 3:1 Mux	No	200V	22	30/9	2	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV2761	8 × 3:1 Mux	Yes	200V	22	30/9	2	3.3V–5V Logic input, 20 MHz clock frequency	48-Lead LQFP
HV2662	24 SPST	No	200V	22	12/9	2	3.3V–5V Logic input, 20 MHz clock frequency	64-Ball VFBGA
HV2762	24 SPST	Yes	200V	22	12/9	2	3.3V–5V Logic input, 20 MHz clock frequency	64-Ball VFBGA
HV2808	2 Banks of 16 SPDT	No	200V	22	23/9	3	3.3V–5V Logic, A/B bar Control pin	56-Lead QFN
HV2809	2 Bank of 16	No	200V	22	23/9	3	3.3V -5V Logic, A/B bar + EN Control pins	56-Lead QFN
HV2801	16 × 2:1 Mux	No	200V	22	23/9	3	3.3V–5V Logic input, 20 MHz clock frequency	64-Lead QFN
HV2901	16 × 2:1 Mux	Yes	200V	22	23/9	3	3.3V–5V Logic input, 20 MHz clock frequency	64-Lead QFN
HV2802	32 SPST	No	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency	9 × 9 VFBGA
HV2902	32 SPST	Yes	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency	9 × 9 VFBGA

ULTRASOUND: Ultrasound MOSFET Drivers

Part #	# of Channels	Input Voltage Min. (V)	Input Voltage Max. (V)	Ouput Voltage Bipolar (V)	Output Voltage Unipolar (V)	Output Rise/ Fall Time	Peak Current	Application Circuit	Packages
MD1210	2	1.2	5.0	NA	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320	4 × 4 mm 12-lead QFN
MD1211	2	1.8	5.0	NA	0–12	10 ns/10 ns	±2A	Pair with 1 × TC6320	8-Lead SOIC
MD1213	2	1.8	5.0	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320	4 × 4 mm 12-lead QFN
MD1711	12	1.8	3.3	NA	0–12	8 ns/8 ns	±2A	Pair with 6 × TC6320 to form a 2-Channel 5-Level Pulser	7 × 7 mm 48-Lead LQFP, 7 × 7 mm 48-Lead QFN
MD1712	12	1.8	3.3	NA	0–12	8 ns/8 ns	±2A	Pair with 6 × TC6320 to form a 2-Channel 5-Level Pulser	7 × 7 mm 48-Lead LQFP, 7 × 7 mm 48-Lead QFN
MD1715	12	1.8	3.3	NA	0–12	6.5 ns/6.5 ns	±2A	Pair with 1 × TC8020 to form a 2-Channel 5-Level Pulser	6 × 6 mm 40-Lead QFN
MD1716	12	1.8	3.3	NA	0–12	6.5 ns/6.5 ns	±2A	Pair with 1 × TC8020 to form a 3-Channel 3-Level Pulser	6 × 6 mm 40-Lead QFN
MD1810	4	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 4-Level Pulser/2 Channel 2 Level Pulser/1 Channel 3 Level Pulser	4 × 4 mm 16-Lead QFN
MD1811	4	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 2 × TC6320 to form a 2-Channel 2-Level Pulser	4 × 4 mm 16-Lead QFN
MD1812	5	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320 and 1 × TC2320 to form a 1-Channel 3-Level Pulser	4 × 4 mm 16-Lead QFN
MD1813	5	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320 and 1 × TC2320 to form a 1-Channel 3-Level Pulser	4 × 4 mm 16-Lead QFN
MD1820	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 4-Level Pulser/2-Channel 2 Level Pulser/1 Channel 3 Level Pulser	4 × 4 mm 16-Lead QFN
MD1821	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 2-Channel 2-Level Pulser	4 × 4 mm 16-Lead QFN
MD1822	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 3Level Pulser	4 × 4 mm 16-Lead QFN

ULTRASOUND: Ultrasound TR Switches

Part #	# of Channels	Noise (per √Hz)	Features	Packages
MD0100	1/2	0.7 nV/√Hz	±100V Ultrasound T/R Switches	SOT-89, 4 × 4 8-pin DFN
MD0101	4	0.8 nV/√Hz	±100V Ultrasound T/R Switches with Clamp Diode	5 × 5 18-pin DFN
MD0105	4	0.8 nV/√Hz	±130V Ultrasound T/R Switches	5 × 5 18-pin DFN

ULTRASOUND: Arbitrary Waveform Generators

Part #	Output	Sampling Frequency	Features	Packages
MD2131	Push-Pull Source Drive	250 MHz	8-bit DAC, 48-step phase, PWM, 8-bit Apodization DAC	5 × 5 40-pin QFN
MD2134	Push-Pull Source Drive	250 MHz	8-bit DAC, 7-bit PAM, 16-Level	5 × 5 40-pin QFN

ULTRASOUND: Ultrasound Transmitters

Part #	Output Voltage (V)	Output Current (A)	Number of Channels	Features	Packages
HV748	±75	±1.25	4	4-Channel 2-Level RTZ	48-pin QFN 7 × 7 mm
HV7360	±100	±2.5	1 or 2	1-Channel 3-Level or 2-Channel 2-Level	22-pin BGA 5 × 7 mm
HV7361	±100	±2.5	1 or 2	1-Channel 3-Level or 2-Channel 2-Level with integrated T/R	22-pin BGA 5 × 7 mm
HV7355	150	±1.5	8	8-Channel Unipolar Active RTZ	48-pin QFN 7 × 7 mm
HV7350	±60	±1.0	8	8-Channel 3-Level	56-pin QFN 8 × 8 mm
HV7351	±70	±3.0	8	8-Channel 3-Level with Built-in Digital Beamformer	80-pin QFN 11 × 11 mm
HV7321	±80	±2.5	4	4-Channel 5-level RTZ, HD2 –44 dB @ 5 MHz	64-pin VQFN 9 × 9 mm
HV7322	±80	±2.0	8	8-Channel 7-level with dual T/R	206-ball TFBGA 12 × 12 mm
HV7358	±80	±1.6	16	16-Channel 3-Level with Built-in Digital Beamformer and T/R	168-ball TFBGA 13 × 13 mm

Featured Analog Development Tools

For a complete list of development tools, please visit www.microchip.com/development tools.

Thermal Management Products

MCP9600 Evaluation Board (ADM00665)

The MCP9600 Evaluation Board is used to digitize the Thermocouple EMF voltage to degree Celsius with ±1.5°C accuracy. You can easily evaluate all device features using a Type K thermocouple. The device also supports Types J, T, N, E, B, S and R. Each of these types are evaluated by replacing the Type K Thermocouple connector with the corresponding connectors (not included).

Thermocouple Reference Design (TMPSNSRD-TCPL1)

This reference design demonstrates how to instrument a thermocouple and accurately sense temperature over the entire thermocouple measurement range. This solution uses the MCP3421 18-bit Analog-to-Digital Converter (ADC) to measure voltage across the thermocouple.

Sensor Products

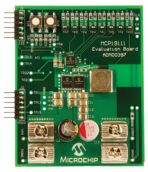
Linear Sensor Kit (LXK3301AL003)

This 100 mm linear position sensor evaluation kit comes will all you need to test out inductive technology for a linear sensor. The kit includes a 100 mm linear sensor evaluation board, a programmer that is run from our Integrated Programming and Calibration Environment (IPCE) GUI and applicable cables.

Rotary Sensor Kit (LXK3301AR001)

This 18 mm 120° rotary position sensor evaluation kit comes will all you need to test out inductive technology for a rotary sensor. The kit includes a rotary position sensor evaluation board, a programmer that is run from our Integrated Programming and Calibration Environment (IPCE) GUI and applicable cables.

Power Management Products



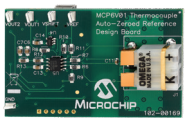
MCP19111 Evaluation Board (ADM00397)

The MCP19111 is a digitally-enhanced PWM controller. It combines a pure-analog PWM controller with a supervisory MCU making it a fast, cost-effective and configurable power conversion solution. The MCP19111 is ideal for standard power conversion, LED drivers and battery charging applications. This board demonstrates how the device operates in a synchronous buck topology over a wide input voltage and load range.

MCP16251 and MCP1640B Synchronous Boost Converters Evaluation Board (ADM00458)

This board demonstrates the MCP16251/MCP1640B in two boost-converter applications with multiple output voltages and was developed to help reduce product design cycle time. Three common output voltages can be selected: 2.0V, 3.3V and 5.0V.

Linear Products



MCP6V01 Thermocouple Auto-Zeroed Reference Design Board (MCP6V01RD-TCPL)

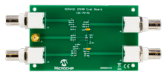
The MCP6V01 design board demonstrates how to use a difference amplifier system to measure Electromotive Force (EMF) voltage at the cold junction of thermocouple to accurately measure temperature of the thermocouple bead. This can be done by using the MCP6V01 auto-zeroed op amp because of its ultra-low offset voltage (V_{OS}) and high Common Mode Rejection Ratio (CMRR).

MCP6N16 Evaluation Board (ADM00640)

This board is designed to provide an easy and flexible platform when evaluating the MCP6N16, a zero-drift instrumentation amplifier designed for low-voltage operation featuring rail-to-rail input and output performance. The board is populated with the MCP6N16-100, which is optimized for gains for 100V/V or higher.

For a complete list of development tools, please visit www.microchip.com/development tools.

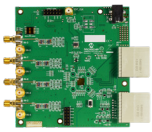
Linear Products (Continued)



MCP6421 EMIRR Evaluation Board (ADM00443)

The MCP6421 EMIRR Evaluation Board is intended to support the Electromagnetic Interference Rejection Ratio (EMIRR) measurement and to show the Electromagnetic Interference (EMI) rejection capability of the MCP6421 op amp.

Mixed Signal Products



MCP37X3X-200 16-bit 200 Msps ADC VTLA Evaluation Board (ADM00505)

This board provides the opportunity to evaluate the performance of the MCP37X3X-200 device family. With the on-board MCP37D31-200 16-bit 200 Msps pipelined ADC, it allows you to evaluate the functionality of the 16-bit 200 Msps ADCs and the digital signal processing features. With the help of a compatible data capture card, the evaluation board can provide you with performance analysis features through the PC GUI.

PAC1921 High-Side Power and Current Monitor Evaluation Board (ADM00592)

The PAC1921 is a dedicated power monitoring device with a configurable analog output. This device is unique in that all power-related information is available on the 2-wire/I²C-compatible interface and power, current or voltage is available on the analog output. This evaluation board provides you with the means to exercise device functionality while connected either to target systems or while utilizing on-board sources.

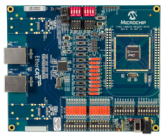
MCP39F511 Power Monitor Demonstration Board (ARM00667)

The MCP39F511 Power Monitor Demonstration Board is a fully functional single-phase power monitor and energy monitoring system. The system calculates and displays active power, reactice power, RMS current, RMS voltage, active energy (both import and export) and four quadrant reactive energy. The Power Monitor Utility Software enables you to easily experiment with all system configuration settings such as zero-cross detection, PWM output frequencies, event configurations and calibration setup.

Interface Products

UCS81003 Evaluation Board (ADM00561)

This board provides the ability to evaluate the features of the UCS81003 Automotive USB Port Power Controller with Charger Emulation. It allows the UCS81003 to be tested in different configurations by populating jumpers on specific header locations. The Evaluation Board contains the MCP2221 USB to I²C bridge, which allows communication via USB between the UCS81003 and the GUI running on the PC.

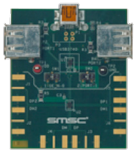


LAN9252 EtherCAT® Slave Controller Evaluation Kit with HBI PDI Interface (EVB-LAN9252-HBI)

This kit is a standalone platform to develop an EtherCAT slave device. It offers flexibility to explore different host bus interfaces such as 8-bit and 16-bit parallel bus, SPI and SQI™.

LAN874X 10/100 Ethernet Transceiver with EEE and Wake-On-LAN (EVB8740)

The EVB8740 is a PHY evaluation board for our LAN874X family, which integrates Energy Efficient Ethernet and Wake-on-LAN features. It interfaces to a MAC controller via a standard MII or RMII interface.



USB3740 Hi-Speed USB 2.0 2-Port Switch (EVB-USB3740)

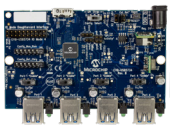
The EVB-USB3740 is used to evaluate our USB3740 USB 2.0 compliant 2-port switch. Some applications require a single USB port to be shared with other functions. The USB3740 is a small and simple 2-port switch providing system design flexibility.

For a complete list of development tools, please visit www.microchip.com/development tools.

Interface Products (Continued)

UTC2000 Basic USB Type-C™ Controller Evaluation Kit (EVK-UTC2000)

The EVK-UTC2000 is a complete kit to evaluate our UTC2000 basic USB-C controller. It includes a downstream-facing port dongle which can connect to any standard host, an upstream-facing port board to mimic a USB-C device, as well as a USB-C cable.

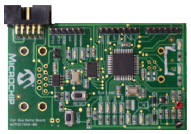


USB5734 USB 3.1 Gen1 Controller Hub Evaluation Board (EVB-USB5734)

This board is a demonstration and evaluation platform that provides the necessary requirements and interface options for evaluating the USB5734 Smart Hub on a 4-layer RoHS-compliant PCB. This will allow you to gain an understanding of the product and accelerate integration into your design.

USB5926 USB 3.1 Gen1 Smart Hub with 2:1 USB-C MUX Evaluation Board (EVB-USB5926)

This board demonstrates implementation of USB Type-C ports using Microchip's UTC2000 CC pin interface controller and the USB5926's built-in 2:1 Muxes. The board supports two downstream facing USB Type-C ports along with an upstream facing USB Type-C port. The USB5926 also supports two additional downstream Type A ports for legacy purposes.



MCP2515 CAN Bus Monitor Demo Board (MCP2515DM-BM)

The MCP2515 CAN Bus Monitor Demo board kit contains two identical boards that can be connected together to create a simple two-node Controller Area Network (CAN) bus, which can be controlled and/or monitored via the included PC interface. The board(s) can also be connected to an existing CAN bus.

USB to UART Converter Evaluation Board (MCP2200EV-VCP)

The MCP2200EV-VCP is a USB-to-RS232 development and evaluation board for the MCP2200 USB-to-UART device. The board allows for easy demonstration and evaluation of the MCP2200. The accompanying software allows the special device features to be configured and controlled. The board is powered from USB and has a test point associated with each GPIO pin. In addition, two of these pins are connected to LEDs which can be used to indicate USB-to-UART traffic when the associated pins are configured as TxLED and RxLED pins respectively.

Support

Microchip is committed to supporting its customers in developing products faster and more efficiently. We maintain a worldwide network of field applications engineers and technical support ready to provide product and system assistance. For more information, please visit www.microchip.com:

- Technical Support: www.microchip.com/support
- Evaluation samples of any Microchip device: www.microchip.com/sample
- Knowledge base and peer help: www.microchip.com/forums
- Sales and Global Distribution: www.microchip.com/sales

Training

If additional training interests you, Microchip offers several resources including in-depth technical training and reference material, self-paced tutorials and significant online resources.

- Overview of Technical Training Resources: www.microchip.com/training
- MASTERs Conferences: www.microchip.com/masters
- Developer Help Website: www.microchip.com/developerhelp
- Technical Training Centers: www.microchip.com/seminars

Sales Office Listing

AMERICAS

Atlanta, GA
Tel: 678-957-9614
Austin, TX
Tel: 512-257-3370
Boston, MA
Tel: 774-760-0087
Chandler, AZ (HQ)
Tel: 480-792-7200
Chicago, IL
Tel: 630-285-0071
Dallas, TX
Tel: 972-818-7423
Detroit, MI
Tel: 248-848-4000
Houston, TX
Tel: 281-894-5983
Indianapolis, IN
Tel: 317-773-8323
Tel: 317-536-2380
Los Angeles, CA
Tel: 949-462-9523
Tel: 951-273-7800
Raleigh, NC
Tel: 919-844-7510
New York, NY
Tel: 631-435-6000
San Jose, CA
Tel: 408-735-9110
Tel: 408-436-4270
Canada - Toronto
Tel: 905-695-1980

EUROPE

Austria - Wels
Tel: 43-7242-2244-39
Denmark - Copenhagen
Tel: 45-4450-2828
Finland - Espoo
Tel: 358-9-4520-820
France - Paris
Tel: 33-1-69-53-63-20
Germany - Garching
Tel: 49-8931-9700
Germany - Haan
Tel: 49-2129-3766-400
Germany - Heilbronn
Tel: 49-7131-67-3636
Germany - Karlsruhe
Tel: 49-721-62537-0
Germany - Munich
Tel: 49-89-627-144-0
Germany - Rosenheim
Tel: 49-8031-354-560

EUROPE

Israel - Ra'anana
Tel: 972-9-744-7705
Italy - Milan
Tel: 39-0331-742611
Italy - Padova
Tel: 39-049-7625286
Netherlands - Drunen
Tel: 31-416-690399
Norway - Trondheim
Tel: 47-7289-7561
Poland - Warsaw
Tel: 48-22-3325737
Romania - Bucharest
Tel: 40-21-407-87-50
Spain - Madrid
Tel: 34-91-708-08-90
Sweden - Gothenberg
Tel: 46-31-704-60-40
Sweden - Stockholm
Tel: 46-8-5090-4654
UK - Wokingham
Tel: 44-118-921-5800

ASIA/PACIFIC

Australia - Sydney
Tel: 61-2-9868-6733
China - Beijing
Tel: 86-10-8569-7000
China - Chengdu
Tel: 86-28-8665-5511
China - Chongqing
Tel: 86-23-8980-9588
China - Dongguan
Tel: 86-769-8702-9880
China - Guangzhou
Tel: 86-20-8755-8029
China - Hangzhou
Tel: 86-571-8792-8115
China - Hong Kong SAR
Tel: 852-2943-5100
China - Nanjing
Tel: 86-25-8473-2460
China - Qingdao
Tel: 86-532-8502-7355
China - Shanghai
Tel: 86-21-3326-8000
China - Shenyang
Tel: 86-24-2334-2829
China - Shenzhen
Tel: 86-755-8864-2200
China - Suzhou
Tel: 86-186-6233-1526
China - Wuhan
Tel: 86-27-5980-5300
China - Xiamen
Tel: 86-592-2388138
China - Xian
Tel: 86-29-8833-7252

ASIA/PACIFIC

China - Zhuhai
Tel: 86-756-321-0040
India - Bangalore
Tel: 91-80-3090-4444
India - New Delhi
Tel: 91-11-4160-8631
India - Pune
Tel: 91-20-4121-0141
Japan - Osaka
Tel: 81-6-6152-7160
Japan - Tokyo
Tel: 81-3-6880-3770
Korea - Daegu
Tel: 82-53-744-4301
Korea - Seoul
Tel: 82-2-554-7200
Malaysia - Kuala Lumpur
Tel: 60-3-7651-7906
Malaysia - Penang
Tel: 60-4-227-8870
Philippines - Manila
Tel: 63-2-634-9065
Singapore
Tel: 65-6334-8870
Taiwan - Hsin Chu
Tel: 886-3-577-8366
Taiwan - Kaohsiung
Tel: 886-7-213-7830
Taiwan - Taipei
Tel: 886-2-2508-8600
Thailand - Bangkok
Tel: 66-2-694-1351
Vietnam - Ho Chi Minh
Tel: 84-28-5448-2100

5/15/19

MICROCHIP

www.microchip.com

Microchip Technology Inc. | 2355 W. Chandler Blvd. | Chandler AZ, 85224-6199

The Microchip name and logo, the Microchip logo, dsPIC, Hyper Speed Control, HyperLight Load, MPLAB and PIC are registered trademarks and PICtail, PICkit and SQI are trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. All other trademarks mentioned herein are property of their respective companies.
© 2019, Microchip Technology Incorporated. All Rights Reserved. 6/19

DS20001060AU

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View TC1224-5.0VCTTR on WIN SOURCE
- Microchip Technology Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management