



**THE DATASHEET OF  
XRP7724ILB-F**



## World's Lowest Power Consumption, Programmable Power Management System

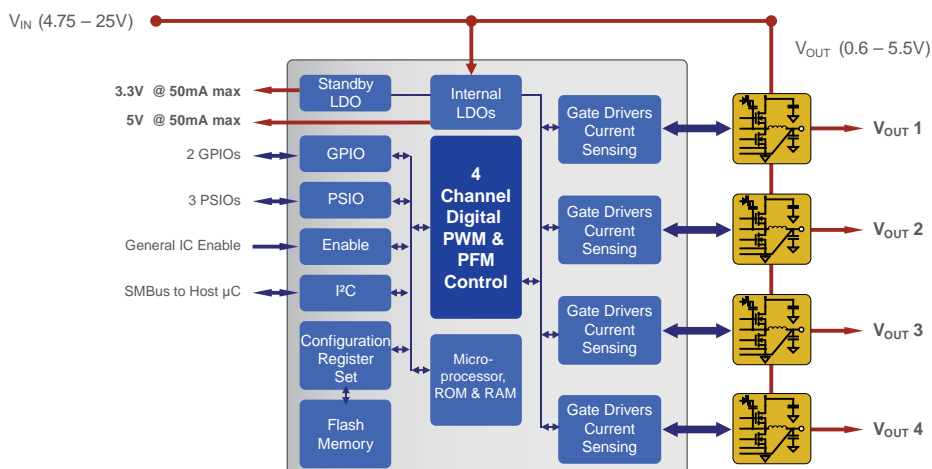
The XRP7724 is a breakthrough Digital PWM/PFM quad output programmable power management system. The XRP7724 is the first digital controller that can be considered for portable or other power sensitive applications due to the significant reduction in operating current. Patented technology allows transient performance equivalent to the fastest comparator based analog technologies ensuring output capacitor size is kept to a minimum. Also included are 3 PSIOs (Power Switch IO) for driving load disconnect MOSFETs, providing another level of Power Management functionality.

The XRP7724 is ready for the next generation of FPGAs and Processors using advanced energy management voltage control by providing output voltage resolution programming as fine as 2.5mV. Each output voltage can be programmed from 0.6V to 5.5V without the need for any external components. The device offers a complete sequencing solution for each buck converter output. Switching frequency is 106kHz to 1.2MHz with the ability to set each channel independently, a useful feature for 2 stage conversion. The wide programmable range of DPWM switching frequency allows for optimization of efficiency and component size.

An SMBus compliant I<sup>2</sup>C interface is provided to program the device and facilitate communication with the host for: fault reporting and handling, monitoring, voltage repositioning and setting other programmable features.

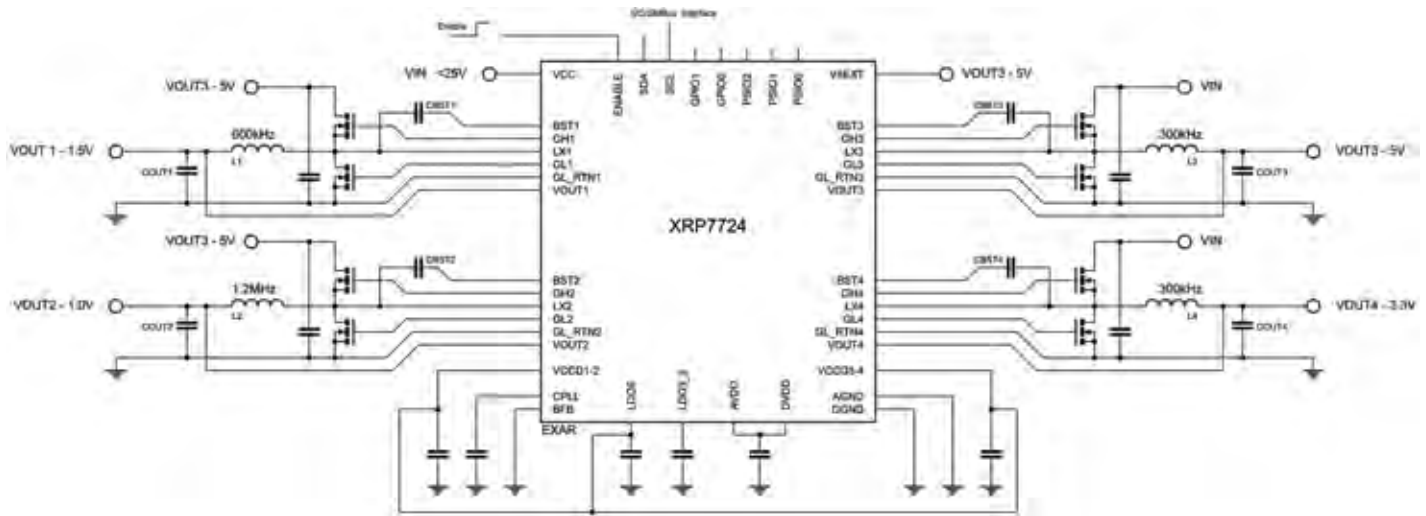
### MAJOR FEATURES

- Four DPWM switching buck controllers with internal FET drivers
  - Patented Over Sampling control
  - Patented DPFM technology with Ultrasonic mode
- 4.75V to 5.5V or 5.5V to 25V input voltage range
- Output voltages programmable from 0.6V to 5.5V
- 5 GPIOs
  - 3 Load Switch I/O's (PSIO)
- Fully programmable via SMBus (I<sup>2</sup>C)
- Channel independent programmable switching frequency (1X, 2X, 4X)
- Complete power monitoring and reporting
- Fully configurable power up and power down sequencing
- Full Fault Protection Features
- Internal 5V 50mA standby LDO, with automatic 5V LDO bypass switch
- Internal 3.3V 50mA standby LDO
- Non-volatile memory for configuration
- Minimal External Components
- PowerArchitect™ software for easy configuration



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### XRP7724 TYPICAL APPLICATION



### BENEFITS

- Dynamic power system control
- Configurable fault management & system monitoring
- Reduced component count
- Programmable configurability reduces time to market
- Configurable and dynamic power conversion optimization
- Remote monitoring & field serviceability
- Anti-tampering security
- Improved reliability with reduced passive components

### TYPICAL APPLICATIONS

- Portable and High Performance Computing
- Base Stations & Optical Line Cards
- Switches/Routers & Broadcast Equipment
- Video Surveillance & Conferencing Systems
- Medical & Industrial Equipment

### ORDERING INFORMATION

Part Number	Junction Temp Range	Package	Packing Quantity	Default I <sup>2</sup> C Address
XRP7724ILB-F	-40°C ≤ T <sub>J</sub> ≤ +125°C	TQFN-44	260/Tray	0x50
XRP7724ILBTR-F	-40°C ≤ T <sub>J</sub> ≤ +125°C	TQFN-44	2.5K/Tape & Reel	0x50
XRP7724EVB-DEMO-2P-KIT		XRP7724 Evaluation Board		

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

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 [Exar Corporation](#) Information

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-  Alternative Solution
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