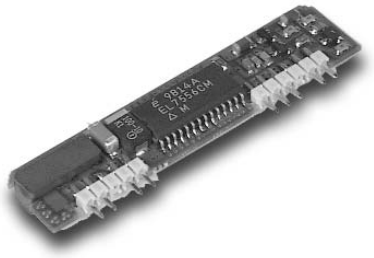
THE DATASHEET OF

SIP305



Features

- High efficiency
- Excellent transient response
- Optional sense and Power OK pins
- Non-isolated
- Open-frame construction
- Vertical or horizontal mounting
- Water washable

Description

SIP305 non-isolated step-up DC/DC converters deliver high efficiency and excellent transient response in an industry-standard SIP package. The SIP305 can provide up to 20 watts of output power, and is the perfect tool for designers who are tight on board space and need to augment 3.3V circuit boards with 5V. Operating over a wide 3.0 to 4.0V input range and a frequency of 400 kHz, the SIP305 features surface-mount construction and an efficiency of 90%.

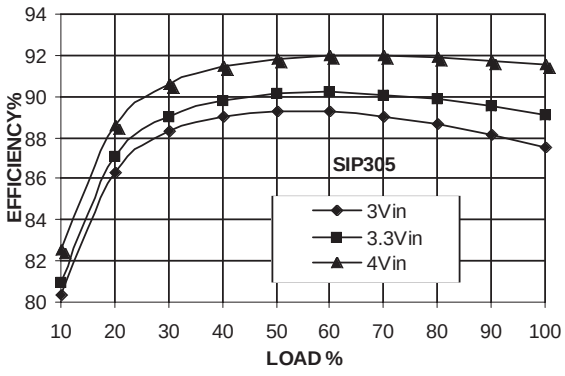
Technical Specifications

Input	
Voltage Range	
3.3 VDC Nominal	3.0 - 4.0 VDC
Turn-On Time	10 ms

Output	
Setpoint Accuracy	±1%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	0.5% V_{out}
Load Regulation I_{out} Min.- I_{out} Max., V_{in} Nom.	1% V_{out}
Ripple and Noise	100 mV
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	4% V_{out}
Settling Time	500 µs

General	
Switching Frequency	400 kHz
Temperature Coefficient	0.03%/°C
PCB Operating Temperature	0 to +100°C
Storage Range	-40 to +100°C
Humidity Max., Non-Condensing	95%
Vibration, 3 Axes, 5 Min Each	5 g, 10 - 55 Hz
MTBF† (Bellcore TR-NWT-000332)	Consult Factory

Efficiency vs. Load



Notes

† MTBF predictions may vary slightly from model to model.

Specifications typically at 25°C, normal line, and full load, unless otherwise stated.

Soldering Conditions: I/O pins, 260°C, ten seconds; fully compatible with commercial wave-soldering equipment.

Safety: Agency approvals may vary from model to model. Please consult factory for specific model information.

Units are water-washable and fully compatible with commercial spray or immersion post wave-solder washing equipment.

Model Selection

MODEL	INPUT VOLTAGE (VOLTS)	MAXIMUM INPUT CURRENT (AMPS)*	OUTPUT VOLTAGE (VOLTS)	RATED OUTPUT CURRENT (AMPS)	TYPICAL EFFICIENCY**
SIP305	3.3	8	5.0	4.0	90%

NOTES: * Maximum input current at minimum input voltage, maximum rated output power.
** At nominal V_{in}, rated output.
For right-angle pins, add suffix "R" to model number.
Model numbers highlighted in yellow or shaded are not recommended for new designs.

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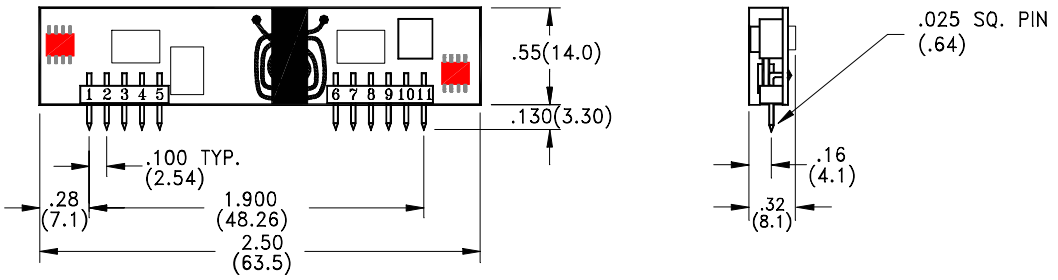
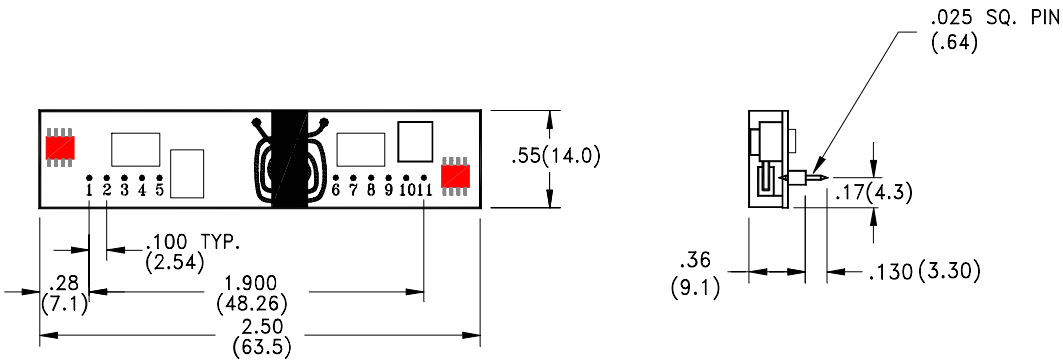
Mechanical Drawing

SIP305



SIP305R



Pin	Function
1	+Vout
2	+Vout
3	+Vout
4	-Vout
5	-Vout
6	-Vin
7	-Vin
8	+Vin
9	+Vin
10	+Vin
11	+Vin

Thermal Impedance	
Normal Convection 24.4 °C/W	
100 LFM	18.3 °C/W
200 LFM	15.0 °C/W
300 LFM	11.1 °C/W
400 LFM	7.9 °C/W

Note: Thermal impedance data is dependent on many environmental factors. The exact thermal performance should be validated for specific application.

Dimension Tolerance	
Inches	(millimeters)
.XX ± 0.020	.X ± 0.5
.XXX ± 0.010	.XX ± 0.25
Pin Diameter Tolerance	
± 0.002	± 0.05

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