POL10/16 SERIES 10/16 A

KEY FEATURES

- Input under Voltage Protection
- Over Current Protection (Hiccup Mode)
- Short Circuit Protection (Hiccup Mode)
- Over Voltage Protection (Self-recovery) * *
- Over Temperature Protection (Self-recovery)
- Remote ON/OFF Control
- Remote Sense
- Output Voltage Trim
- Monotonic Start-Up Into Pre-Biased Outputs *
- Meet UL94V-0 flammability requirements
- Size: 2.0 x 0.5 x 0.33 Inches (POL16-05)
  2.0 x 0.55 x 0.47 Inches (others Model)
- 3-Years Product Warranty

*POL10-05 and POL16-12 without this function

**POL16-05 without this function

DESCRIPTION

POL series are high performance SIP POL models, whose feature include wide range of input voltage, high power density and perfect protection functions. This series include BUCK and BOOST models, the output current covering 10A and 16A two levels. The output voltage can be set arbitrarily in the rating range. All models can be used in DPA or IBA. This series which conform to the RoHS6 requirement are suitable for telecom devices, server, network and industry devices power supply

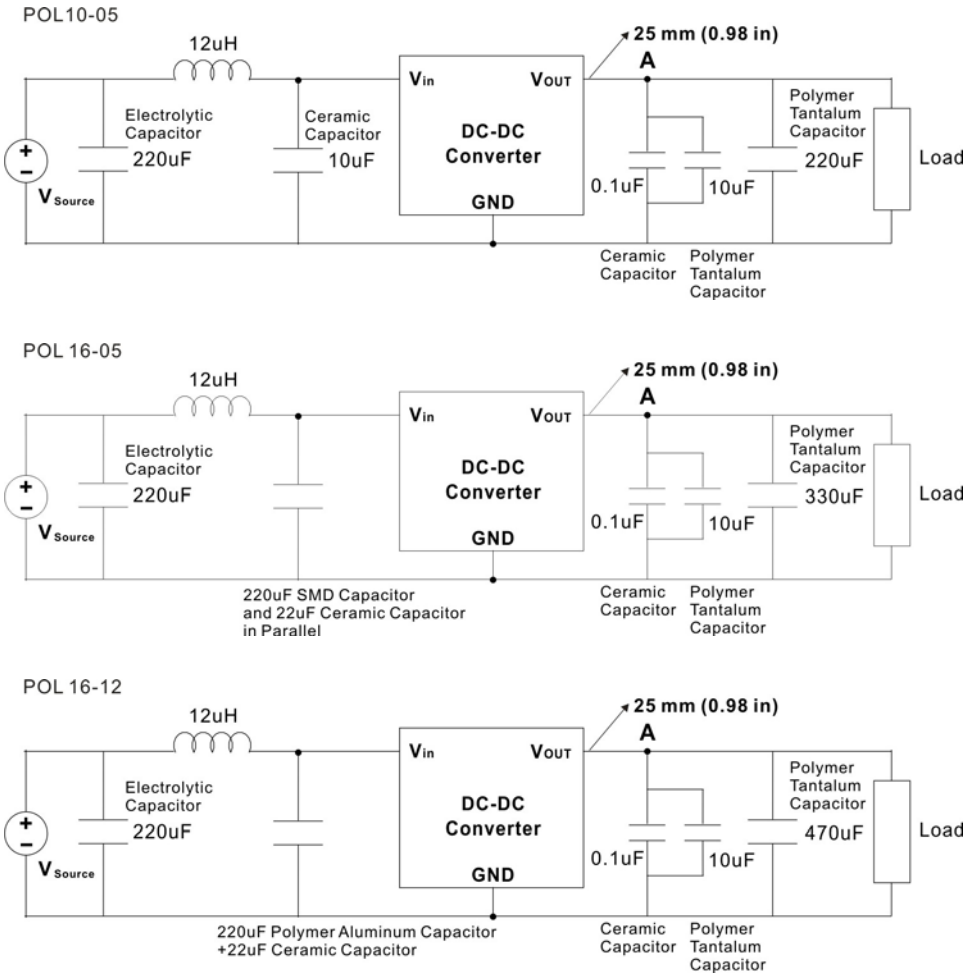


ELECTRICAL SPECIFICATIONS

Conditions: TA = -40 - 85°C, Vin = 4.5 - 5.5 / 3 - 5.5V / 10 - 14 VDC, Vout = 3.3 / 0.75 – 3.3 / 0.85 - 5 V DC, unless otherwise notes.

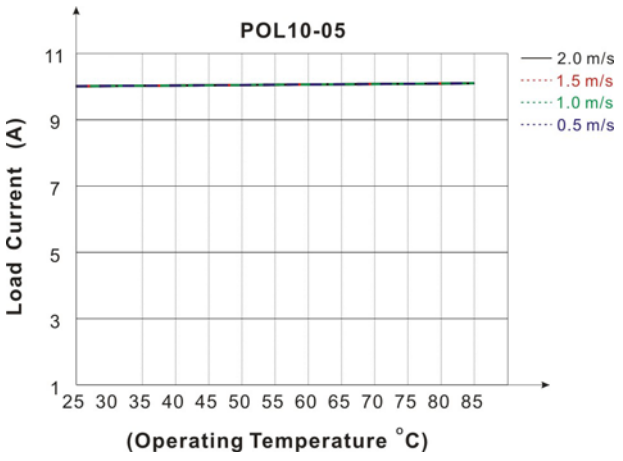
Model No.			POL10-05	POL16-05	POL16-12
Input	Voltage (V.DC.) (max.) (Continuous)		6V	5.8V	16V
	Operating Voltage (V.DC.)		5V (4.5~5.5V)	3.3V (3~5.5V)	12V (10~14V)
	Current (A) (max)		10A	23A	18A
	No-Load Loss (W) (typ.)		0.3W	0.2W	0.7W
Output	Voltage Set Point (V.DC.) (typ.)		3.3V	3.3V	1.2V
	Voltage Trim Range (V.DC.)		3.2~3.4V	0.75~3.3V	0.85~5V
	Current (A) (max.)		10A	16A	16A
	Line Regulation (LL-HL) (typ.)		±1%		
	Load Regulation (0-100%) (typ.)		±1%	±1.5%	±2%
	Ripple & Noise (peak to peak) (typ.) (Oscilloscope Bandwidth:20 MHz)		70 mV	50 mV	＜3.3V:50 mV ≧3.3V: 75 mV
	Efficiency (typ.)		95%	0.9Vout: 85% 1.0Vout: 86% 1.2Vout: 87.5% 1.5Vout: 89.5% 1.8Vout: 91% 2.5Vout: 93% 3.3Vout: 94.5%	0.85Vout: 80% 1.0Vout: 83% 1.2Vout: 84% 1.5Vout: 86% 1.8Vout: 87.5% 2.5Vout: 88% 3.3Vout: 90.5% 5.0Vout: 92%
Protection	Over Power Protection		Hiccup mode		
	Over Current Protection		Hiccup mode		
	Over Voltage Protection		105~130% (Self-recovery)	—	105~130% (Self-recovery)
	Short Circuit Protection (max.)		Hiccup mode		
	Over Temperature Protection		Threshold:125°C / Hysteresis:5°C (typ.) Self-recovery (The values are obtained by measuring the temperature of the PCB bottom near the thermal resistor.)		
Environment	Operating Temperature		-40°C…+85°C		
	Storage Temperature		-55°C…+125°C		
	Temperature Coefficient (max.) (TA = -40°C to +85°C (-40°F to +185°F))		0.02 % Vout / °C	0.5 % Vout / °C	0.02 % Vout / °C
	Humidity		95% RH		
	MTBF		1.5 Million Hours (Telcordia SR332; Vin = 5 / 3.3 / 12 V; 80% load; Airflow = 1.5 m/s (300 FLM); TA = 40°C (104°F)		
Physical	Dimension (L x W x H) Tolerance ±0.5 mm		POL16-05: 2.0 x 0.5 x 0.33 Inches (50.8 x 12.7 x 8.4 mm) others: 2.0 x 0.55 x 0.47 Inches (50.8 x 14.0 x 12.0 mm)		
	Weight		6 g		
Other	Remote On/Off Voltage	Low level (V.DC.)	-0.2~0.5V	0.4V (max.)	-0.2~0.5V
		High level (V.DC.)	2.0~5.0V	1.5~5.8V	2.0~5.0V

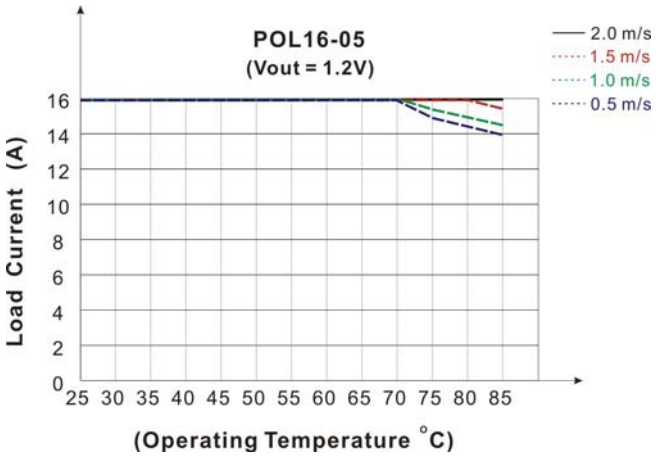
NOTE

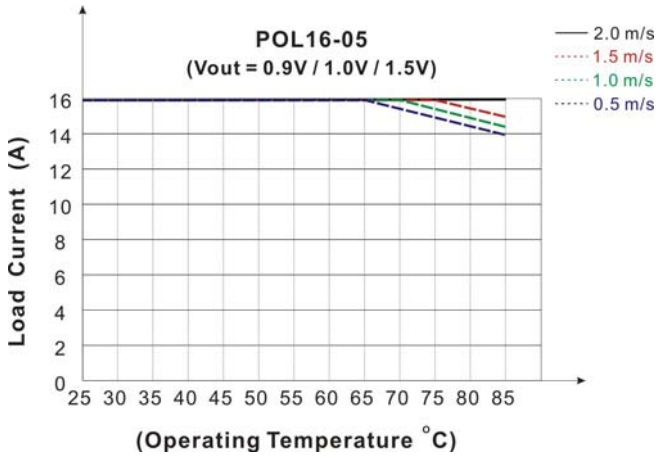


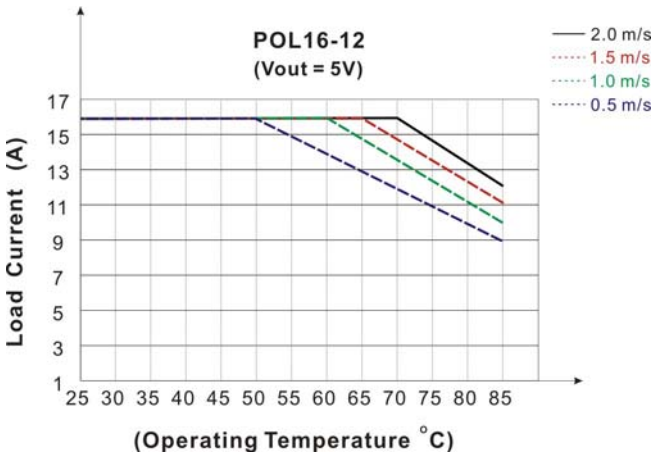
1. During the test of input reflected ripple current, the input terminal must be connected to a 12 uH inductor and a 220 uF electrolytic capacitor.
2. Point A, which is for testing the output voltage ripple, is 25 mm (0.98 in.) away from the Vout pin.
3. The test platform is a 1oz four-layer board with the dimensions (L x W) being 100 mm x 50 mm (3.94 in. x 1.97 in.).

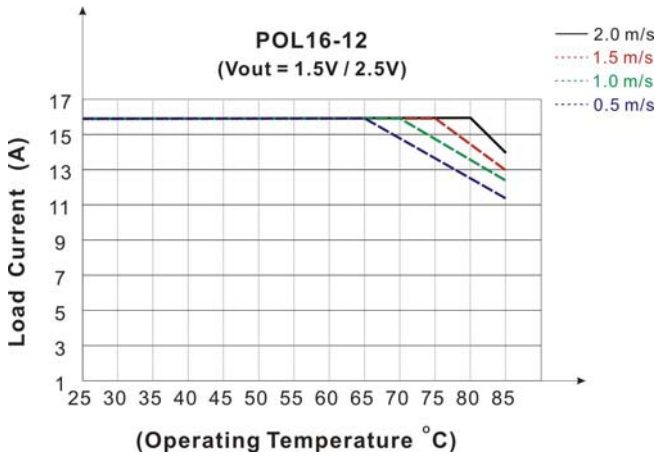
DERATING





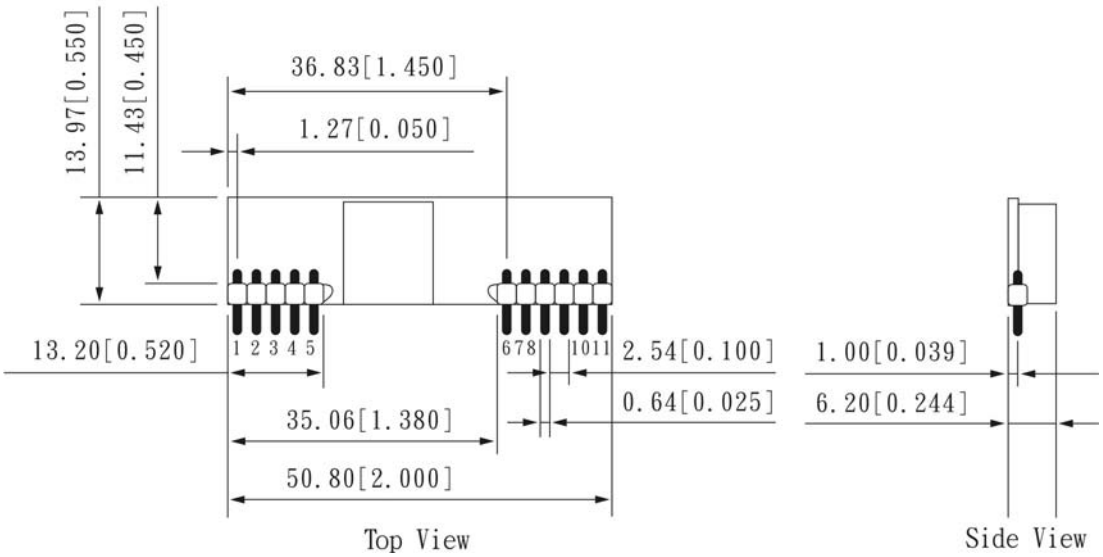






MECHANICAL DIMENSION

Unit: mm [in.]



PIN#	Single
1	DC OUT
2	DC OUT
3	Sense
4	DC OUT
5	GND
6	GND
7	DC IN
8	DC IN
10	Trim
11	ON/OFF

Note

1. All dimensions in mm [in.]
   Tolerances: x.x ± 0.5 mm [x.xx ± 0.02 in.]
   x.xx± 0.25 mm [x.xxx ± 0.010 in.]
2. Tolerances for the lengths, widths of all pins are x.xx ± 0.10 mm [x.xxx ±0.004 in.]