

SIP SMT16-12

S E R I E S

16 AMP POL CONVERTERS



Features

- Non-Isolated POL Converter
- SIP / SMT Package
- Output Current 16AMP
- Input Voltage Range 9-14VDC
- Output Voltage Range 0.75-5VDC
- 300KHz Switching Frequency
- High Efficiency to 94%
- Over Temperature Protection
- Continuous Short Circuit Protection
- Remote On/Off Control
- UL/c-UL 60950 Certified

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.
				NO LOAD	FULL LOAD	
SIP 16-12S05A	9.0-14VDC	0.75VDC	16A	40mA	1299mA	77
	9.0-14VDC	1.2VDC	16A	50mA	1928mA	83
	9.0-14VDC	1.5VDC	16A	50mA	2326mA	86
	9.0-14VDC	1.8VDC	16A	60mA	2727mA	88
SMT16-12S05A	9.0-14VDC	2.0VDC	16A	60mA	2996mA	89
	9.0-14VDC	2.5VDC	16A	65mA	3704mA	90
	9.0-14VDC	3.3VDC	16A	75mA	4783mA	92
	9.0-14VDC	5.0VDC	16A	75mA	7092mA	94

NOTE: 1. Nominal Input Voltage 12 VDC

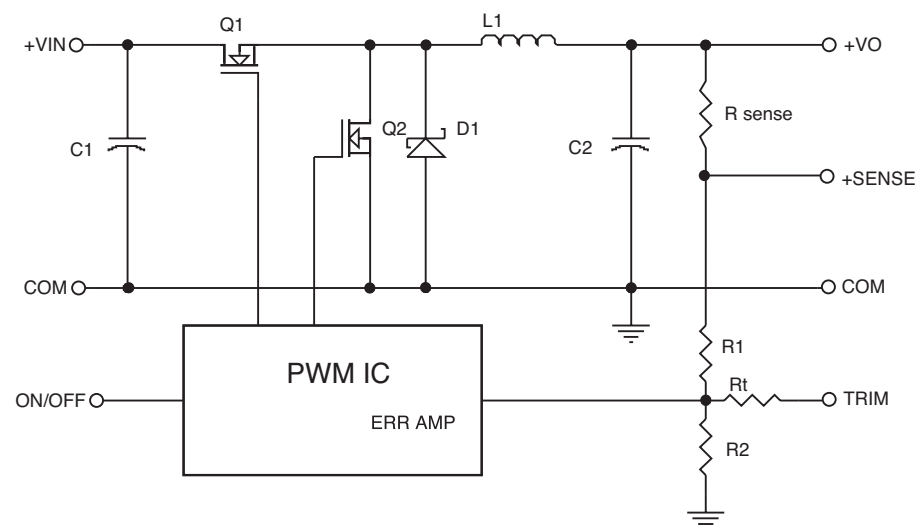
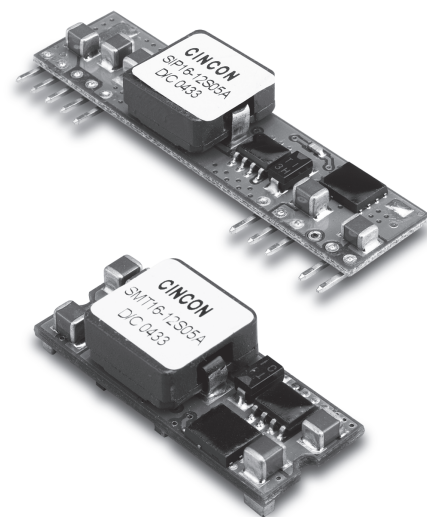


Figure 1. Simplified Schematic

Vo, set (V)	Rtrim (KΩ)
0.75	Open
1.2	22.33
1.5	13.0
1.8	9.0
2.0	7.4
2.5	5.0
3.3	3.12
5.0	1.47

Table 1. External Resistor Values for programming output voltage



Specifications

INPUT SPECIFICATIONS:

Input Voltage Range.....12V.....9.0 - 14V
Under Voltage Lock-outPower up8.0V Typ.
Power down.....7.7V Typ.
Input Filter Type.....Capacitive
Positive Remote on/off Control :
Module ON.....Open Circuit or = Vin
Module OFF.....< 0.4 Vdc

OUTPUT SPECIFICATIONS:

Voltage Accuracy.....±1.5% max.
Transient Response :25% Step Load Change.....<200μ sec.
Ripple and Noise, 20MHz BW³.....30mV rms max.
75mV pk-pk max.
Temperature Coefficient.....±0.03%/C max.
Short Circuit Protection.....Continuous
Line Regulation¹.....± 0.2% max.
Load Regulation².....± 0.5% max.
Capacitive Load, Low ESR.....8000μF max.
External Trim Adj. Range (see Table1).....Vo=0.75-5.0VDC

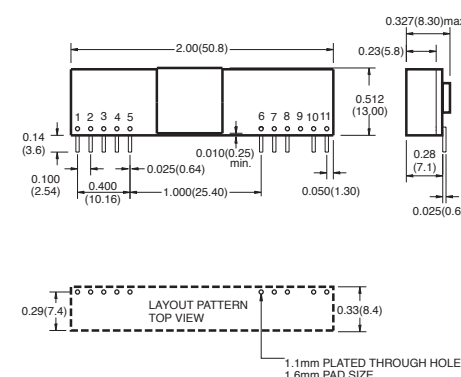
GENERAL SPECIFICATIONS:

Efficiency.....See Table
Isolation Voltage.....Non-isolation
Switching Frequency300KHz Typ.
Over Temperature Protection130°C Typ.
Operating Ambient Temperature Range.....-40°C to +85°C
Power Derating Curvesee Figure 2,3
Storage Temperature Range-55°C to +125°C
Dimensions:
SIP Package: 2.00 x 0.512 x 0.327 inches (50.8 x 13.00 x 8.3 mm)
SMT Package: 1.30 x 0.530 x 0.366 inches (33.0 x 13.46 x 9.30 mm)
Structure.....Non-potted With Open Frame Type
Weight.....10g

Mechanical Specification

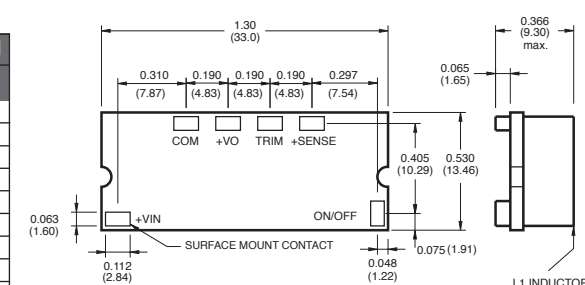
All Dimensions In Inches(mm)
Tolerance Inches: x.xx= ±0.02, x.xxx= ±0.010
Millimeters: x.x= ±0.5, x.xx= ±0.25

SIP Packages



Pin	Function
1	+Output
2	+Output
3	+Sense
4	+Output
5	Common
6	Common
7	+V Input
8	+V Input
9	No Pin
10	Trim
11	On/Off Control

SMT Packages BOTTOM VIEW OF BOARD



SIP16-12S05A (Vo=3.3V) Derating Curve

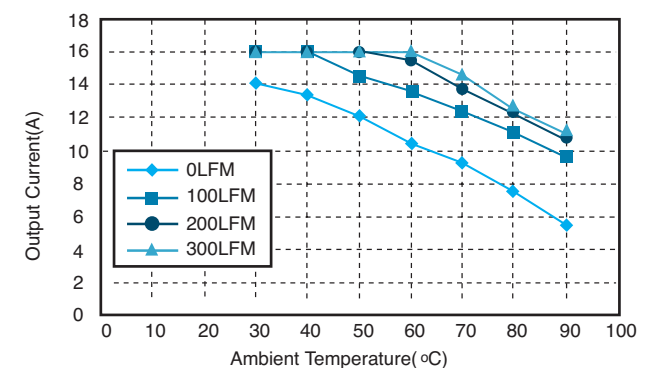


Figure 2. Typical Power De-rating for 12V IN

SMT16-12S05A (Vo=3.3V) Derating Curve

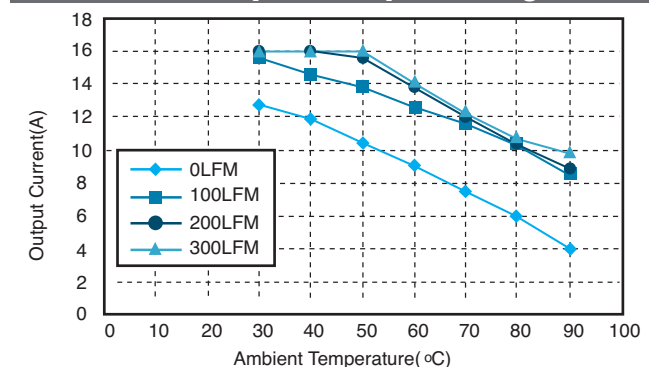


Figure 3. Typical Power De-rating for 12V IN

NOTE:

1. Measured From High Line to Low Line, Vo,set=3.3Vdc
2. Measured From Full Load to Zero Load, Vo,set=3.3Vdc
3. The output noise is measured with 10uF tantalum capacitor and 1uF ceramic capacitor across output.
4. The Input Terminal Recommend to Parallel With 100uF Capacitor ESR<100mΩ to Reduce The Input Ripple Voltage
5. Suffix "N" to the Model Number with Negative Logic Remote on/off
Model ON.....Open Circuit or < 0.4VDC
Module OFF.....>+2.8VDC to Vin