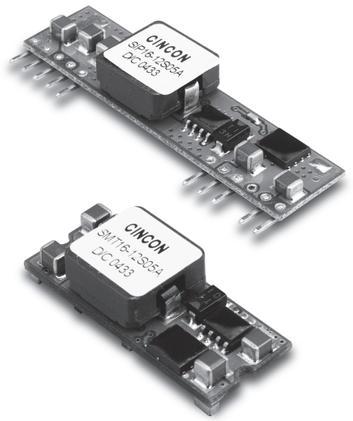
SIPSMT16-12

S E R I E S

16 AMP
POL CONVERTERS



E176177

RoHS

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 SMT16-12S05A	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
	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

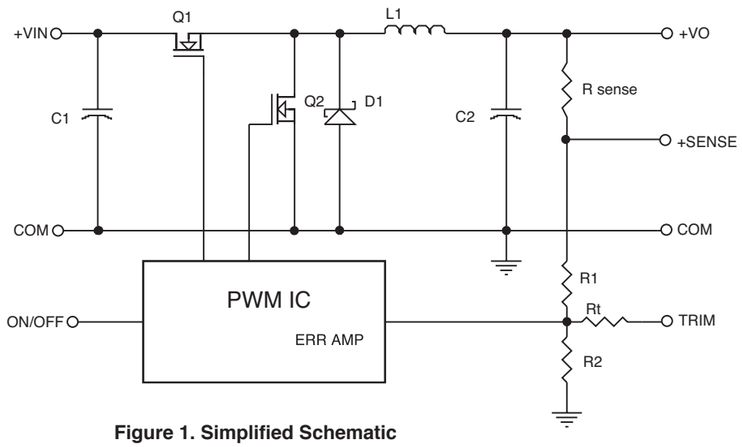


Figure 1. Simplified Schematic

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-out .....Power up .....8.0V 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 BW[3].....30mV rms max.
75mV pk-pk max.
Temperature Coefficient.....±0.03%/C max.
Short Circuit Protection.....Continuous
Line Regulation[1].....± 0.2% max.
Load Regulation[2].....± 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 Frequency .....300KHz Typ.
Over Temperature Protection .....130˚C Typ.
Operating Ambient Temperature Range.....-40˚C to +85˚C
Power Derating Curve .....see 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 13.46x 9.30 mm)
Structure.....Non-potted With Open Frame Type
Weight.....10g

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

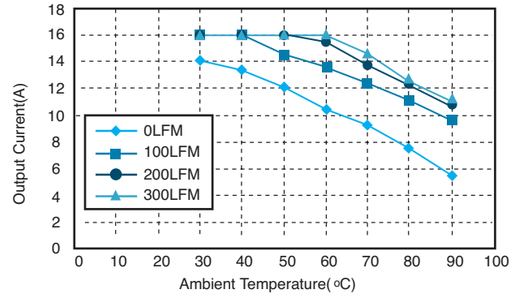


Figure 2. Typical Power De-rating for 12V IN

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

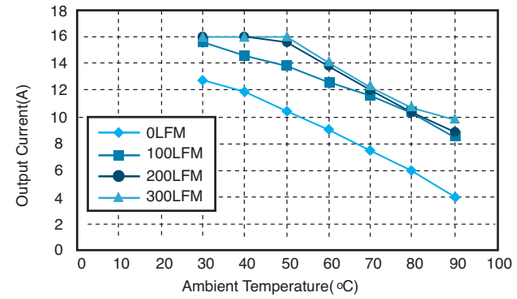


Figure 3. Typical Power De-rating for 12V IN

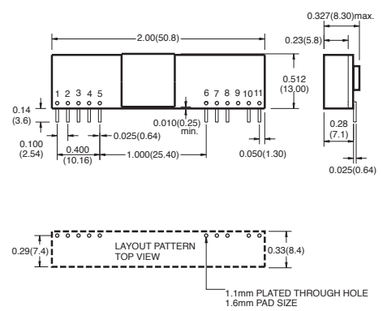
NOTE:

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

Mechanical Specification

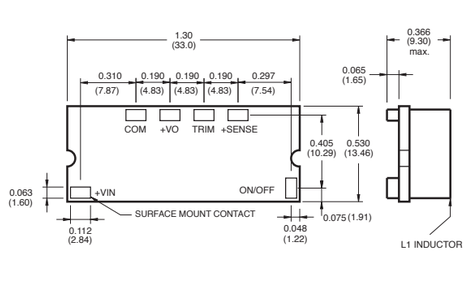
All Dimensions In Inches(mm)
Tolerance Inches: x.xx= ±0.02, x.xxx= ±0.010
Millimeters: x.x= ±0.5, x.xx= ±0.25

SIP Packages



PIN CONNECTION	
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



All Specifications Typical At Nominal Line, Full Load and 25˚C Unless Otherwise Noted.

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