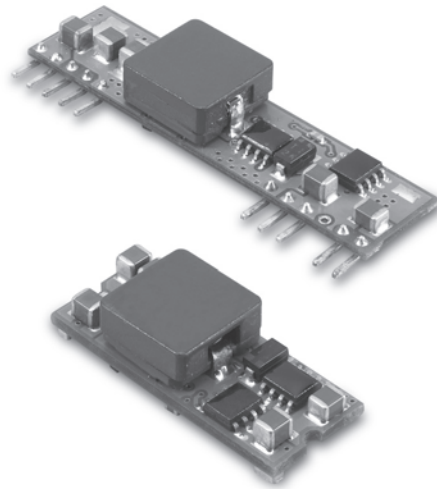


# SIP SMT10-12

S E R I E S

## 10 AMP POL CONVERTERS



### Features

- Non-Isolated POL Converter
- SIP / SMT Package
- Output Current 10AMP
- Input Voltage Range 9-14VDC
- 300KHz Switching Frequency
- High Efficiency to 95%
- 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 10-12S10 SMT10-12S10	9.0-14 VDC	1.0VDC	10 A	50mA	992mA	84
SIP 10-12S12 SMT10-12S12	9.0-14 VDC	1.2VDC	10 A	50mA	1163mA	86
SIP 10-12S15 SMT10-12S15	9.0-14 VDC	1.5VDC	10 A	50mA	1404mA	89
SIP 10-12S18 SMT10-12S18	9.0-14 VDC	1.8VDC	10 A	60mA	1666mA	90
SIP 10-12S20 SMT10-12S20	9.0-14 VDC	2.0VDC	10 A	60mA	1832mA	91
SIP 10-12S25 SMT10-12S25	9.0-14 VDC	2.5VDC	10 A	60mA	2264mA	92
SIP 10-12S33 SMT10-12S33	9.0-14 VDC	3.3VDC	10 A	70mA	2956mA	93
SIP 10-12S05 SMT10-12S05	9.0-14 VDC	5.0VDC	10 A	70mA	4385mA	95
SIP 10-12S05A SMT10-12S05A	8.3-14 VDC	0.75-5VDC	10 A	70mA	2956mA	93%@3.3V

NOTE: 1. Nominal Input Voltage 12VDC

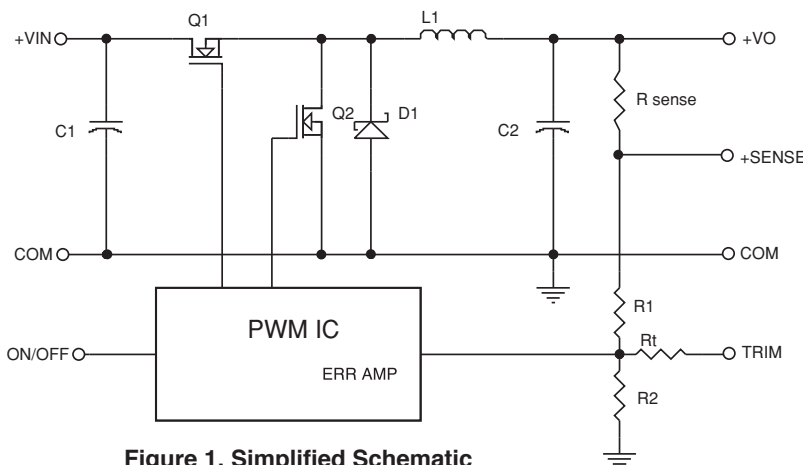


Figure 1. Simplified Schematic

Vo, set (V)	Rtrim (K $\Omega$ )
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. Suffix "A" to the model number  
External Resistor Values for  
programming output voltage

## Specifications

### INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....	9.0 – 14V
Under Voltage Lock-out .....	Power up .....	8.3 – 14V
	Power down.....	8.0V 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 <sup>3</sup> .....		20mV rms max.
		50mV pk-pk max.
Temperature Coefficient.....		±0.03%/C max.
Short Circuit Protection.....		Continuous
Line Regulation <sup>1</sup> .....		± 0.2% max.
Load Regulation <sup>2</sup> .....		± 0.5% max.
Capacitive Load, Low ESR.....		8000µF max.
External Trim Adj. Range.....		±10%
(SIP/SMT10-12S05).....		+5%, -10%
(SIP/SMT10-12S05A).....		0.75V-5.0V

### GENERAL SPECIFICATIONS:

Efficiency.....		See Table
Isolation Voltage.....		Non-isolation
Switching Frequency .....		300KHz Typ.
Over Temperature Protection .....		120°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 13.0 x 8.30 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

## SIP10-12S33 Derating Curve

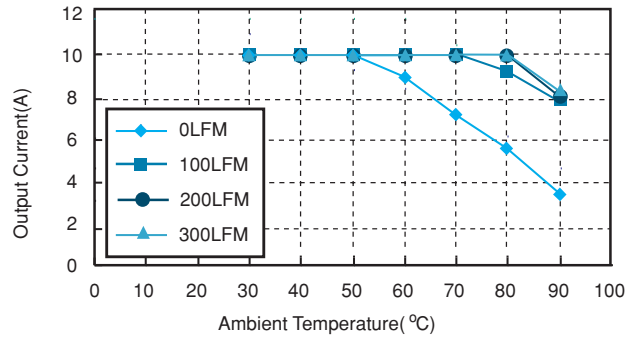


Figure 2. Typical Power Derating vs. Output Current for 12V IN

## SMT10-12S33 Derating Curve

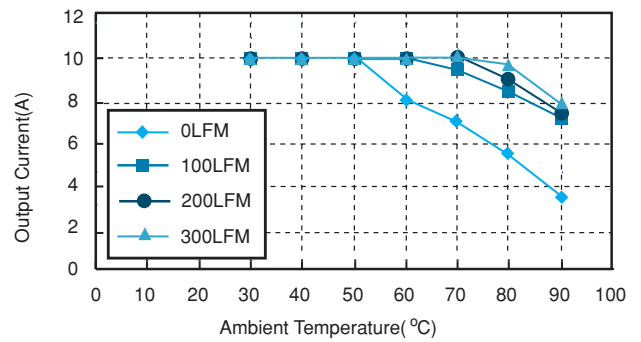


Figure 3. Typical Power Derating vs. Output Current for 12V IN

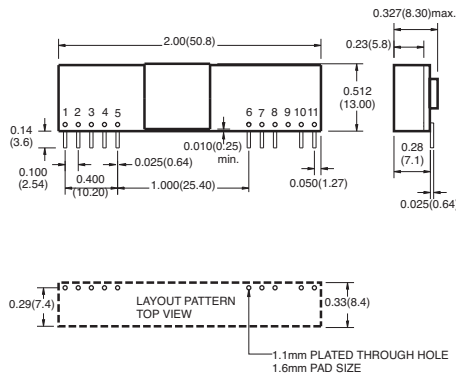
**NOTE:**

1. Measured From High Line to Low Line
2. Measured From Full Load to Zero Load
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

