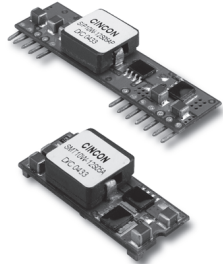


# SIP SMT10W-12

S E R I E S

## 10 AMP POL CONVERTERS



### Features

- Non-Isolated POL Converter
- SIP / SMT Package
- Output Current 10AMP
- Input Voltage Range 6-14VDC
- Output Voltage Range 0.7525-5VDC
- 300KHz Switching Frequency
- High Efficiency to 95%
- Over Temperature Protection
- Continuous Short Circuit Protection
- Remote On/Off Control
- Output Voltage Sequencing
- Power Good Signal
- UL/c-UL 60950 Certified

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.
				NO LOAD	FULL LOAD	
SIP10W-12S05A	6.0-14 VDC	0.7525VDC	10A	40mA	762mA	82
	6.0-14 VDC	1.2VDC	10A	40mA	1149mA	87
	6.0-14 VDC	1.5VDC	10A	50mA	1404mA	89
SMT10W-12S05A	6.0-14 VDC	1.8VDC	10A	50mA	1666mA	90
	6.0-14 VDC	2.0VDC	10A	60mA	1832mA	91
	6.0-14 VDC	2.5VDC	10A	65mA	2264mA	92
	6.0-14 VDC	3.3VDC	10A	75mA	2956mA	93
	6.5-14 VDC	5.0VDC	10A	95mA	4386mA	95

NOTE: 1. Nominal Input Voltage 12VDC

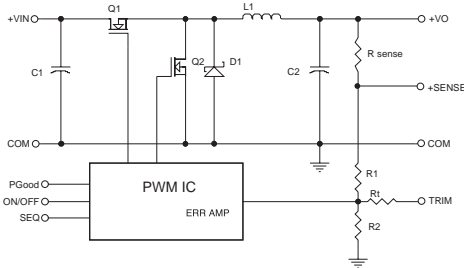


Figure 1. Simplified Schematic

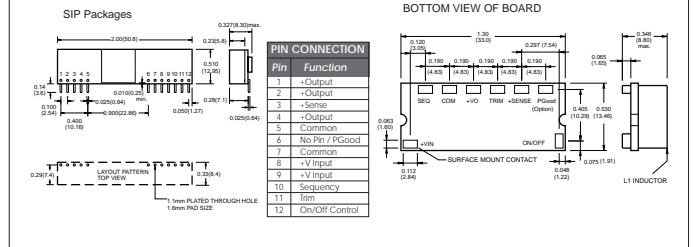
Vo, set (V)	Rtrim (KΩ)
0.7525	Open
1.2	22.46
1.5	13.05
1.8	9.024
2.0	7.417
2.5	5.009
3.3	3.122
5.0	1.472

Table 1. External Resistor Values for programming output voltage

Specifications	
<b>INPUT SPECIFICATIONS:</b>	
Input Voltage Range	12V ..... 6.0 - 14V 12V ..... 6.5 - 14V
Under Voltage Lock-out	Power up ..... 5.0V Typ. Power down ..... 4.0V Typ.
Input Filter Type	Capacitive
Positive Remote on/off Control:	
Module ON	Open Circuit or = Vin
Module OFF	< 0.4 Vdc
<b>OUTPUT SPECIFICATIONS:</b>	
Voltage Accuracy	±1.5% max.
Transient Response 25% Step Load Change	< 200µ sec.
Ripple and Noise, 20MHz BW <sup>1</sup>	30mV rms max. 75mV 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.
External Trim Adj. Range (see Table 1)	Vo=0.75-5.0Vdc
Sequencing Slow Rate Capability (dVo/dt)	0.1-1.0V/msec
Sequencing Delay Time	10msec min
Tracking Accuracy	Power up ..... 200mV max. Power down ..... 400mV max.
Capacitive Load, Low ESR	8000µF max.
Power Good Signal Asserted Logic High	Vo+90%-110%Vo,nom
<b>GENERAL SPECIFICATIONS:</b>	
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 0.510 x 0.327 inches (50.8 x 12.95 x 8.30 mm)	
SMT Package: 1.30 x 0.530 x 0.346 inches (33.0 x 13.46 x 8.8 mm)	
Structure	Non-potted With Open Frame Type
Weight	8.5g

### 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



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

### SIP10W-12S05A Vo=3.3V Derating Curve

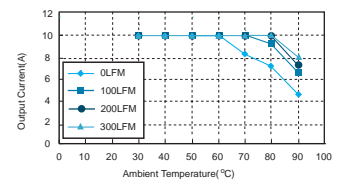


Figure 2. Typical Power De-rating for 12V IN

### SMT10W-12S05A Vo=3.3V Derating Curve

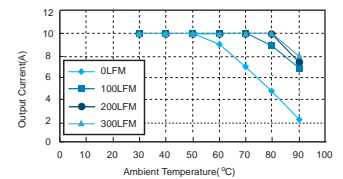


Figure 3. Typical Power De-rating for 12V IN

### 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 10µf tantalum capacitor and 1µf ceramic capacitor across output.
4. The Input Terminal Recommend to Parallel With 10µf Capacitor ESR<100mΩ to Reduce the Input Ripple Voltage
5. Suffix 'W' to the Model Number with Negative Logic Remote on/off
6. Suffix 'P' to the Model Number with Power Good function.