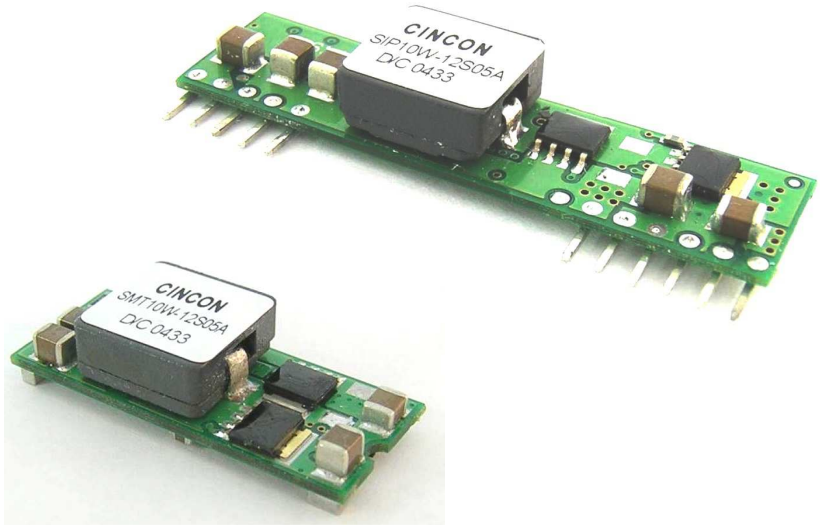
SIPSMT10W-12 SERIES
10 AMP
POL CONVERTERS

E176177

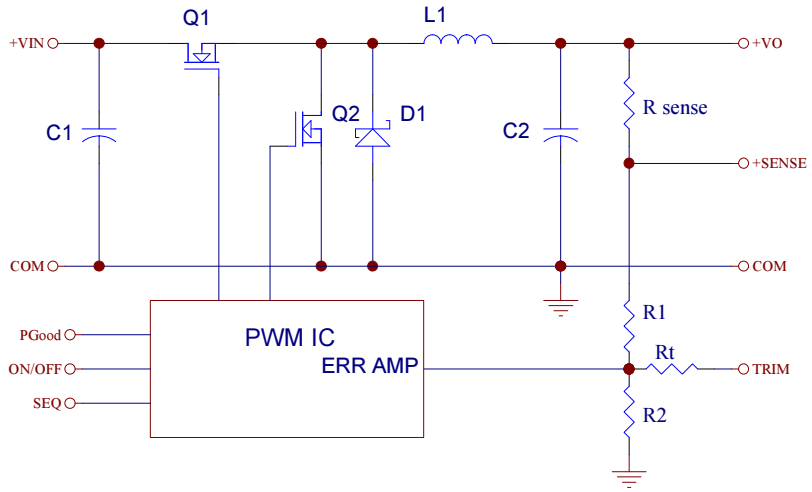
FEATURES

* Non-isolated POL Converter
* SIP / SMT Package
* Output Current 10AMP
* Input Voltage Range 6.0-14VDC
* 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-UL60950 Certified



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

NOTE: Nominal Input Voltage 12VDC



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

Figure 1. Simplified Schematic

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25℃ Unless Otherwise Noted

INPUT SPECIFICATIONS:

Input Voltage Range ..... 12V ..... 6.0 – 14.0V
12V ..... 6.5 – 14.0V
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

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.5% max.
Transient Response: 25% Step Load Change ..... <200us
Ripple and Noise, 20MHz BW (note 3) ..... 30mV rms max.
75mV pk-pk max.
Temperature Coefficient ..... ±0.03%/C max.
Short Circuit Protection ..... Continuous
Line Regulation (note 1) ..... ±0.2% max.
Load Regulation (note 2) ..... ±0.5% max.
External Trim Adj. Range (see Table1) ..... Vo=0.75 – 5.0Vdc
Sequencing Slew Rate Capability (dV_{SEQ}/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 ..... 8000uF max.
Power Good Signal Asserted Logic High ..... Vo=90%-110%Vo, nom
Start up time ..... 7ms typ.

GENERAL SPECIFICATIONS:

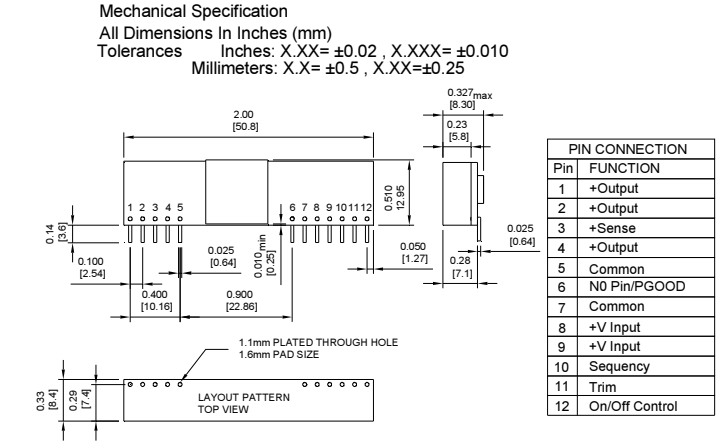
Efficiency ..... See Table
Isolation Voltage ..... Non-isolation
Switching Frequency ..... 300KHz typ.
Over Temperature Protection ..... 130℃ typ.
Operating Ambient Temperature Range ..... -40℃ to +85℃
Power De-rating Curve ..... see Figure2, 3
Storage Temperature Range ..... -55℃ to +125℃
MTBF ..... MIL-STD-217F, GB, 25℃, Full Load ..... 0.92Mhrs typ.
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 13.46x 8.80 mm)
Structure ..... Non-potted With Open Frame Type
Weight 8.5g

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
6. Suffix “P” to the Model Number with Power Good function.

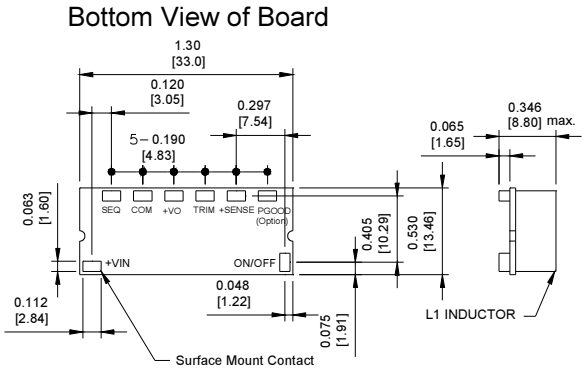
Dimensions:

SIP Packages



PIN CONNECTION	
Pin	FUNCTION
1	+Output
2	+Output
3	+Sense
4	+Output
5	Common
6	N0 Pin/PGOOD
7	Common
8	+V Input
9	+V Input
10	Sequency
11	Trim
12	On/Off Control

SMT Packages



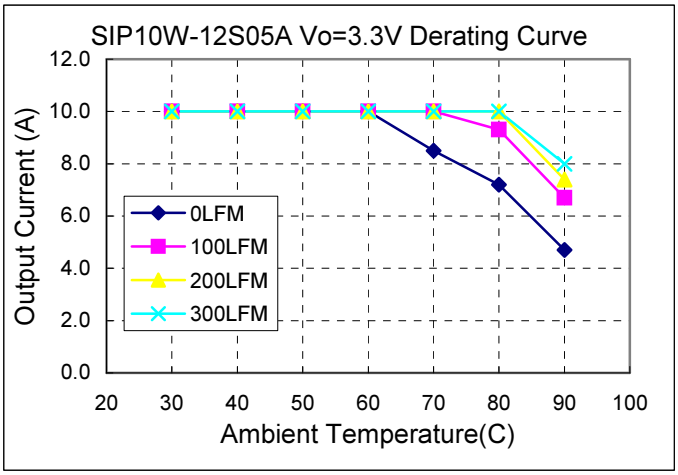


Figure2. Typical Power De-rating for 12V IN

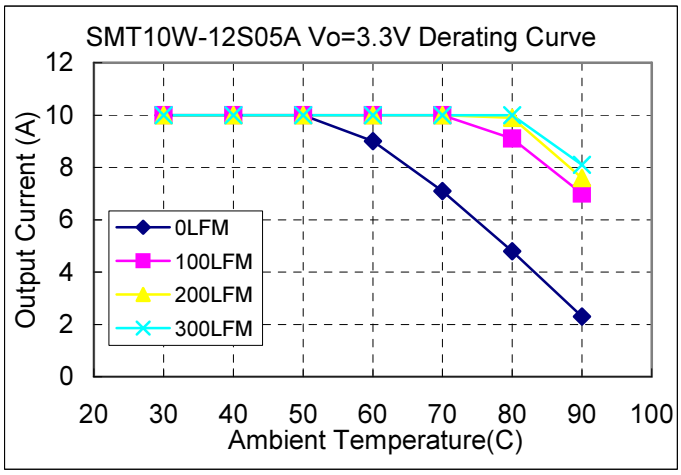


Figure3. Typical Power De-rating for 12V IN