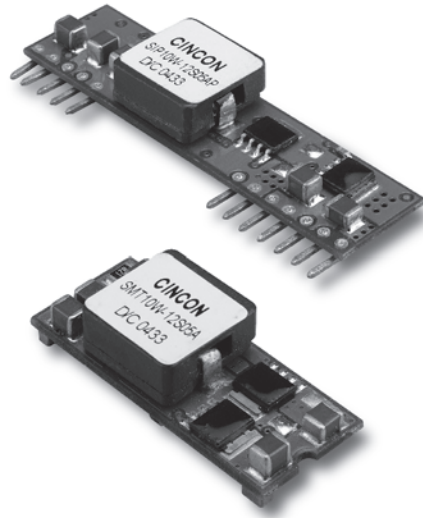


SIP SMT10W-12

S E R I E S

10 AMP POL CONVERTERS

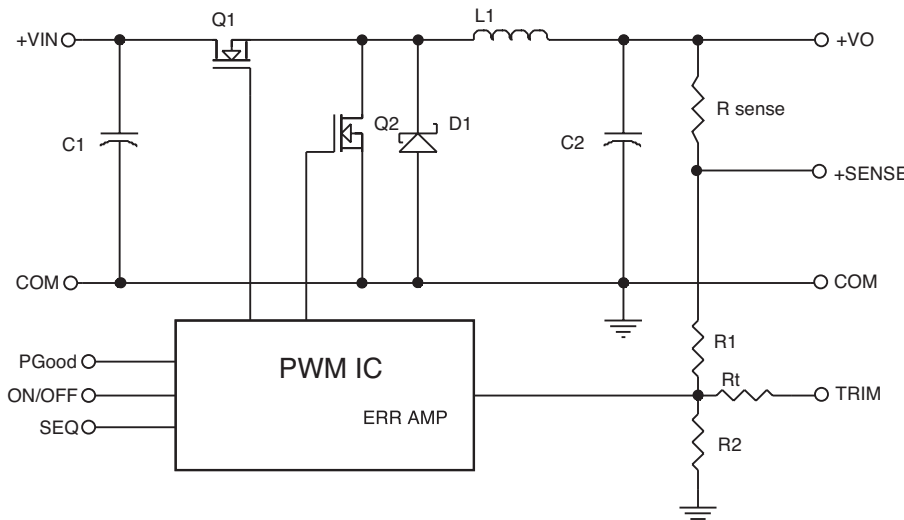


Features

- 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	
SIP 10W-12S05A	6.0-14 VDC	0.7525 VDC	10 A	40 mA	762 mA	82
	6.0-14 VDC	1.2 VDC	10 A	40 mA	1149 mA	87
	6.0-14 VDC	1.5 VDC	10 A	50 mA	1404 mA	89
SMT10W-12S05A	6.0-14 VDC	1.8 VDC	10 A	50 mA	1666 mA	90
	6.0-14 VDC	2.0 VDC	10 A	60 mA	1832 mA	91
	6.0-14 VDC	2.5 VDC	10 A	65 mA	2264 mA	92
	6.0-14 VDC	3.3 VDC	10 A	75 mA	2956 mA	93
	6.5-14 VDC	5.0 VDC	10 A	95 mA	4386 mA	95

NOTE: 1. 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

INPUT SPECIFICATIONS:

Input Voltage Range.....12V..... 6.0 – 14V
 12V..... 6.5 – 14V
 Under Voltage Lock-outPower 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: 50% Step Load Change..... < 200µs
 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.
 External Trim Adj. Range (see Table 1)..... Vo=0.7525-5.0Vdc
 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..... 8000µF 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°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
 MTBF...MIL-STD-217F, GB, 25°C, Full Load..... 980Khrs typ.
 Dimensions:
 SIP Package: 2.00x0.510x0.327 inches (50.8x12.95x8.30 mm)
 SMT Package: 1.30x0.530x0.346 inches (33.0x13.46x8.8 mm)
 Structure..... Non-potted With Open Frame Type
 Weight..... 8.5g

SIP10W-12S05A (Vo=3.3V) Derating Curve

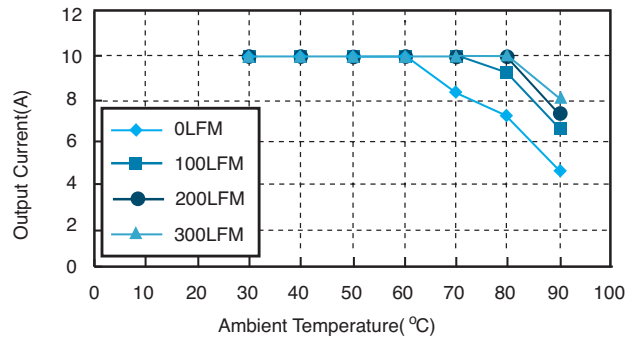


Figure 2. Typical Power De-rating for 12Vin

SMT10W-12S05A (Vo=3.3V) Derating Curve

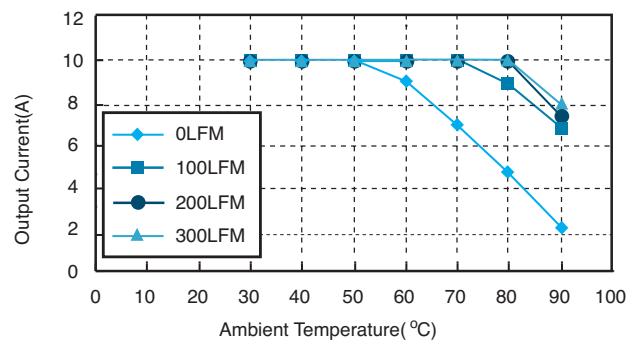


Figure 3. Typical Power De-rating for 12Vin

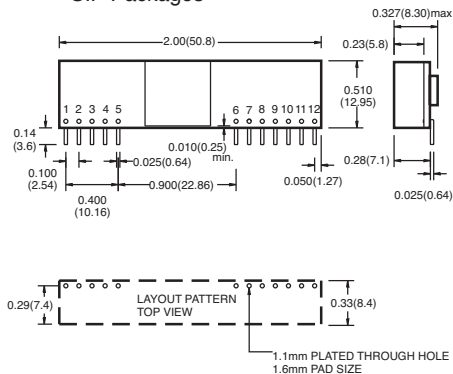
NOTE:

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 100µF Capacitor ESR<100mΩ to Reduce The Input Ripple Voltage.
5. Suffix "N" to the Model Number with Negative Logic Remote on/off Module ON.....Open Circuit or < 0.4VDC Module OFF.....>+2.8VDC to Vin
6. Suffix "P" to the Model Number with Power Good function.

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	No Pin / PGood
7	Common
8	+V Input
9	+V Input
10	Sequency
11	Trim
12	On/Off Control

SMT Packages

BOTTOM VIEW OF BOARD

