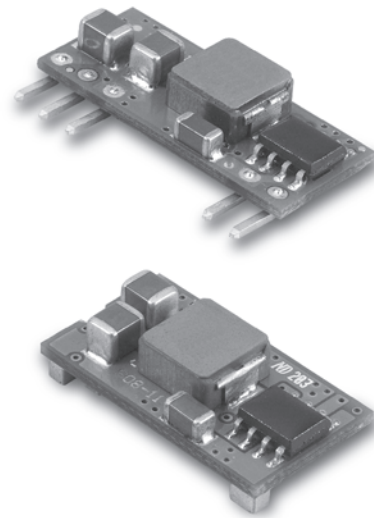


# SIP SMT05-05

S E R I E S

## 5 AMP POL CONVERTERS

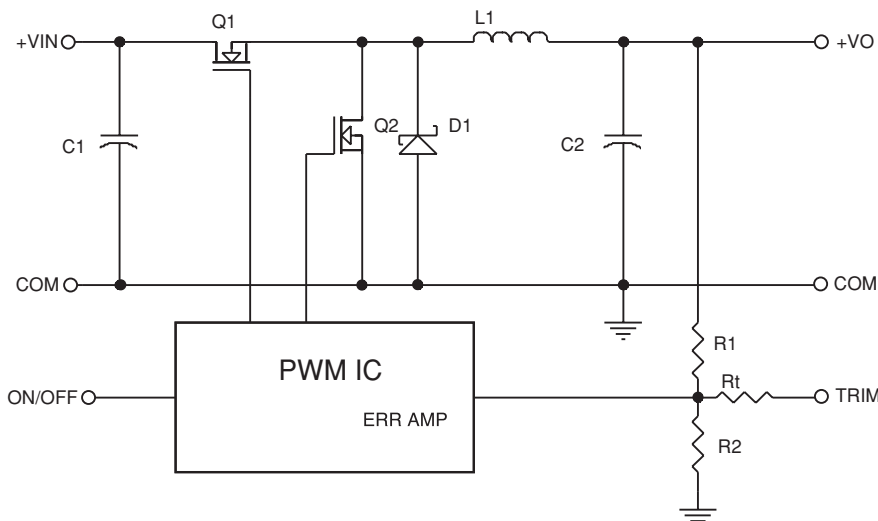


### Features

- Non-Isolated POL Converter
- SIP / SMT Package
- Output Current 5AMP
- Input Voltage Range 3.0-5.5VDC
- Output Voltage Range 0.75-3.63VDC
- 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	
SIP05-05S33A	3.0-5.5 VDC	0.75 VDC	5 A	25 mA	949 mA	79
	3.0-5.5 VDC	1.2 VDC	5 A	30 mA	1412 mA	85
	3.0-5.5 VDC	1.5 VDC	5 A	30 mA	1724 mA	87
SMT05-05S33A	3.0-5.5 VDC	1.8 VDC	5 A	35 mA	2022 mA	89
	3.0-5.5 VDC	2.0 VDC	5 A	35 mA	2222 mA	90
	3.0-5.5 VDC	2.5 VDC	5 A	35 mA	2217 mA	92
	4.5-5.5 VDC	3.3V DC	5 A	35 mA	3511 mA	94

NOTE: 1. Nominal Input Voltage 5 VDC



Vo. set (V)	Rtrim (K $\Omega$ )
0.75	Open
1.2	41.71
1.5	22.98
1.8	14.96
2.0	11.75
2.5	6.93
3.3	3.15
3.63	2.20

Table 1. External Resistor Values for programming output voltage

Figure 1. Simplified Schematic

### Specifications

#### INPUT SPECIFICATIONS:

Input Voltage Range..... $V_o$ , set  $\leq V_{in}$ -0.5VDC.....5V..... 3.0 – 5.5V  
 Under Voltage Lock-out .....Power up .....2.0V typ.  
 Power down.....1.9V typ.

Input Filter Type.....Capacitive  
 Positive Remote on/off Control :  
 Module ON.....Open Circuit or =  $V_{in}$   
 Module OFF.....< 0.4 Vdc

#### OUTPUT SPECIFICATIONS:

Voltage Accuracy.....  $\pm 1.5\%$  max.  
 Transient Response: 50% Step Load Change.....< 200 $\mu$ s  
 Ripple and Noise, 20MHz BW<sup>3</sup>..... 20mV RMS max.  
 50mV pk-pk max.  
 Temperature Coefficient..... $\pm 0.03\%/^{\circ}$ C max.  
 Short Circuit Protection..... Continuous  
 Line Regulation<sup>1</sup>.....  $\pm 0.4\%$  max.  
 Load Regulation<sup>2</sup>.....  $\pm 0.5\%$  max.  
 Capacitive Load Low ESR..... 3000 $\mu$ F max.  
 External Trim Adj. Range (see Table 1).....  $V_o=0.75$ -3.63VDC  
 Start up time..... 6.5ms typ.

#### GENERAL SPECIFICATIONS:

Efficiency..... See Table  
 Isolation Voltage..... Non-isolation  
 Switching Frequency ..... 300KHz typ.  
 Over Temperature Protection ..... 120 $^{\circ}$ C typ.  
 Operating Ambient Temperature Range..... -40 $^{\circ}$ C to +85 $^{\circ}$ C  
 Power Derating Curve ..... see Figure 2,3  
 Storage Temperature Range ..... -55 $^{\circ}$ C to +125 $^{\circ}$ C  
 MTBF...MIL-STD-217F, GB, 25 $^{\circ}$ C..... 1500Khrs typ.  
 Dimensions:  
 SIP Package: 0.90x0.400x0.22 inches (22.9x10.16x5.6 mm)  
 SMT Package: 0.80x0.450x0.24 inches (20.3x11.43x6.09 mm)  
 Structure..... Non-potted With Open Frame Type  
 Weight..... 2.3g

### SIP05-05S33A ( $V_o=3.3V$ ) Derating Curve

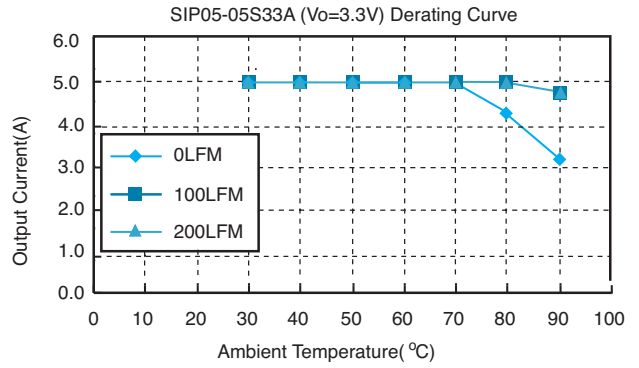


Figure 2. Typical Power De-rating for 5Vin

### SMT05-05S33A ( $V_o=3.3V$ ) Derating Curve

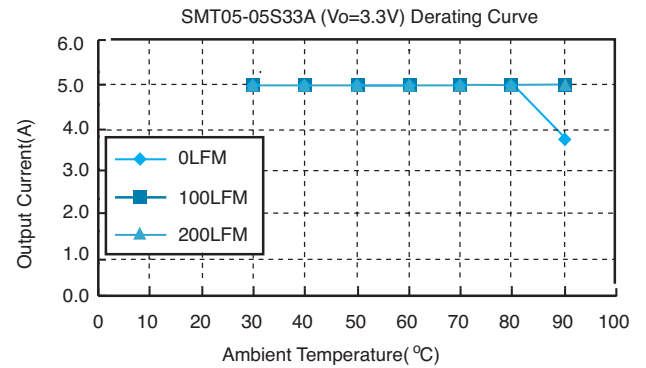


Figure 3. Typical Power De-rating for 5Vin

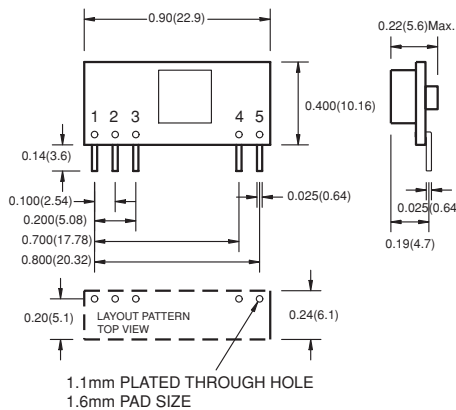
#### NOTE:

1. Measured From High Line to Low Line,  $V_o$ ,set=1.8Vdc.
2. Measured From Full Load to Zero Load,  $V_o$ ,set=3.3Vdc.
3. The output noise is measured with 10 $\mu$ F tantalum capacitor and 1 $\mu$ F ceramic capacitor across output.
4. The Input Terminal Recommend to Parallel With 100 $\mu$ F Capacitor ESR<100m $\Omega$  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  $V_{in}$

### Mechanical Specification

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

#### SIP Packages



PIN CONNECTION	
Pin	Function
1	+Output
2	Trim
3	Common
4	+V Input
5	On/Off

#### SMT Packages BOTTOM VIEW OF BOARD

