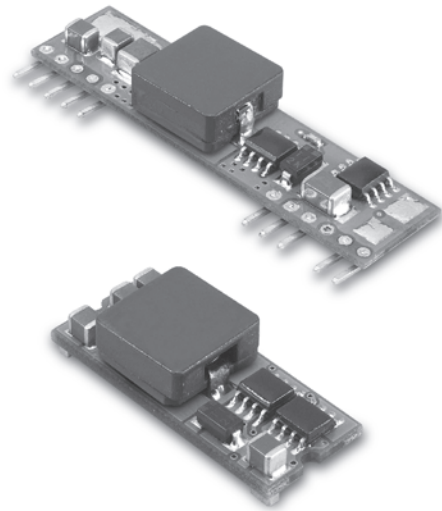


SIP SMT15-05

S E R I E S

15 AMP POL CONVERTERS

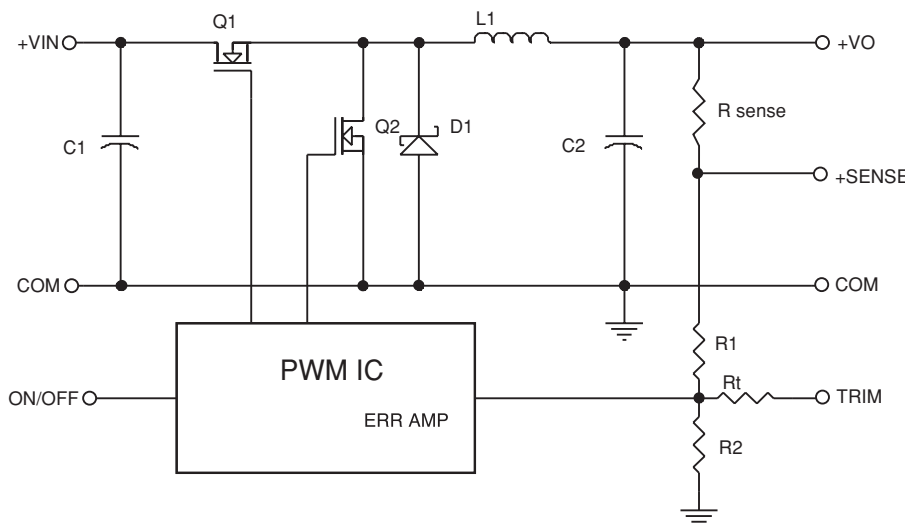


Features

- Non-Isolated POL Converter
- SIP / SMT Package
- Output Current 15AMP
- Input Voltage Range 3-5.5VDC
- Output Voltage Range 0.9-3.63VDC
- 300KHz Switching Frequency
- 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	
SIP 15-05S33A	3.0-5.5 VDC	1.0 VDC	15 A	60 mA	3.658 A	82
	3.0-5.5 VDC	1.2 VDC	15 A	60 mA	4.286 A	84
	3.0-5.5 VDC	1.5 VDC	15 A	60 mA	5.172 A	87
SMT15-05S33A	3.0-5.5 VDC	1.8 VDC	15 A	70 mA	6.136 A	88
	3.0-5.5 VDC	2.0 VDC	15 A	70 mA	6.742 A	89
	3.0-5.5 VDC	2.5 VDC	15 A	70 mA	8.152 A	92
	4.5-5.5 VDC	3.3 VDC	15 A	70 mA	10.532 A	94

NOTE: 1. Nominal Input Voltage 5 VDC



$V_o, set (V)$	$R_{trim} (K\Omega)$
0.90	135.36
1.00	79.17
1.20	41.71
1.50	22.98
1.80	14.96
2.00	11.75
2.50	6.93
3.30	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}-0.5V_{DC}$5V..... 3.0 – 5.5V
 Under Voltage Lock-out..... Power up..... 2.8V typ.
 Power down..... 2.7V typ.
 Input Filter Type..... Capacitive
 Positive Remote on/off Control :
 Module ON..... Open Circuit or = V_{in}
 Module OFF..... $< 0.4V_{dc}$

OUTPUT SPECIFICATIONS:

Voltage Accuracy..... $\pm 1.5\%$ max.
 Transient Response: 25% Step Load Change..... $< 200\mu s$
 Ripple and Noise, 20MHz BW³..... 20mV RMS max.
 50mV pk-pk max.
 Temperature Coefficient..... $\pm 0.03\%/^{\circ}C$ max.
 Short Circuit Protection..... Continuous
 Line Regulation¹..... SIP15-05S33A..... $\pm 0.2\%$ max.
 SMT15-05S33A..... $\pm 0.4\%$ max.
 Load Regulation²..... $\pm 0.5\%$ max.
 Capacitive Load Low ESR..... 10000 μF max.
 External Trim Adj. Range (see Table 1)..... $V_o=0.9-3.63V_{DC}$
 Start up time..... 4.5ms 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 $^{\circ}C$, Full Load..... 1500khrs typ.
 Dimensions:
 SIP Package: 2.00x0.50x0.327 inches (50.8x12.7x8.50 mm)
 SMT Package: 1.30x0.53x0.366 inches (33.0x13.46x9.30 mm)
 Structure..... Non-potted With Open Frame Type
 Weight..... 6.8g

SIP15-05S33A (Vo=3.3V) Derating Curve

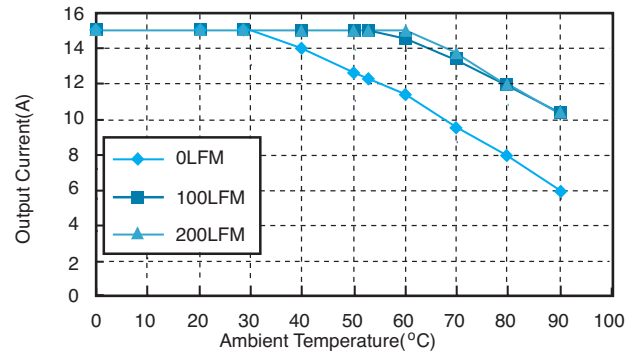
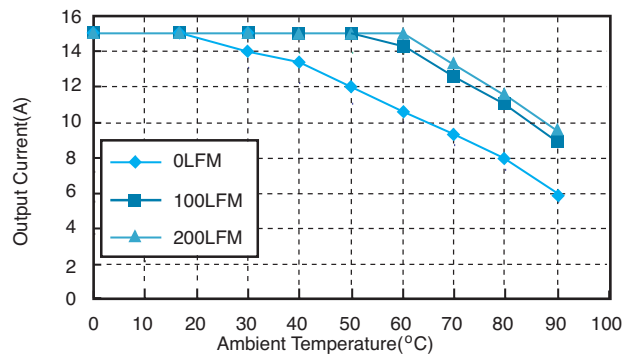


Figure 2. Typical Power De-rating for 5Vin

SMT15-05S33A (Vo=3.3V) Derating Curve



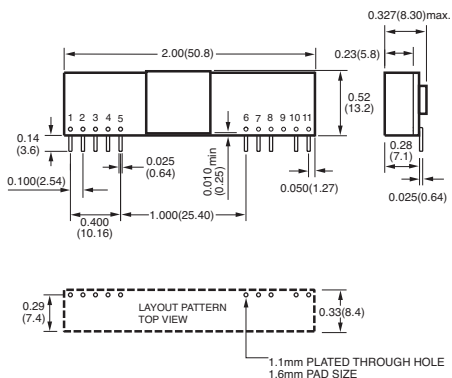
NOTE: Figure 3. Typical Power De-rating for 5Vin

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 μF tantalum capacitor and 1 μF ceramic capacitor across output.
4. The Input Terminal Recommend to Parallel With 100 μF Capacitor ESR<20m Ω to Reduce The Input Ripple Voltage.
5. Suffix "N" to the Model Number with Negative Logic Remote on/off
 Module ON..... Open Circuit or $< 0.4V_{DC}$
 Module OFF..... $> +2.8V_{DC}$ to V_{in}

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	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

