



# SIPSMT10-05 SERIES

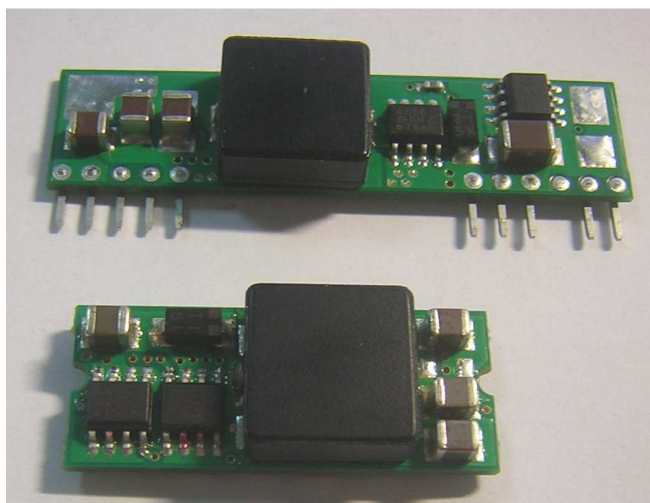
## 10 AMP

## POL CONVERTERS



### FEATURES

- \* Non-isolated POL converter
- \* SIP / SMT Package
- \* Output Current 10AMP
- \* Input Voltage Range 9-14VDC
- \* 300KHz Switching Frequency
- \* High Efficiency to 95%
- \* Over Temperature Protection
- \* Continuous Short Circuit Protection
- \* Remote ON/OFF Control
- \* UL/C-UL60950 Certified



| MODEL NUMBER               | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT |           | Efficiency (%) |
|----------------------------|---------------|----------------|----------------|---------------|-----------|----------------|
|                            |               |                |                | NO LOAD       | FULL LOAD |                |
| SIP10-05S10<br>SMT10-05S10 | 3.0 – 5.5VDC  | 1.0VDC         | 10A            | 50mA          | 2353mA    | 85             |
| SIP10-05S12<br>SMT10-05S12 | 3.0 – 5.5VDC  | 1.2VDC         | 10A            | 50mA          | 2791mA    | 86             |
| SIP10-05S15<br>SMT10-05S15 | 3.0 – 5.5VDC  | 1.5VDC         | 10A            | 50mA          | 3409mA    | 88             |
| SIP10-05S18<br>SMT10-05S18 | 3.0 – 5.5VDC  | 1.8VDC         | 10A            | 50mA          | 4000mA    | 90             |
| SIP10-05S20<br>SMT10-05S20 | 3.0 – 5.5VDC  | 2.0VDC         | 10A            | 60mA          | 4396mA    | 91             |
| SIP10-05S25<br>SMT10-05S25 | 3.0 – 5.5VDC  | 2.5VDC         | 10A            | 60mA          | 5376mA    | 93             |
| SIP10-05S33<br>SMT10-05S33 | 4.5 – 5.5VDC  | 3.3VDC         | 10A            | 60mA          | 6947mA    | 95             |

NOTE: Nominal Input Voltage 5.0VDC

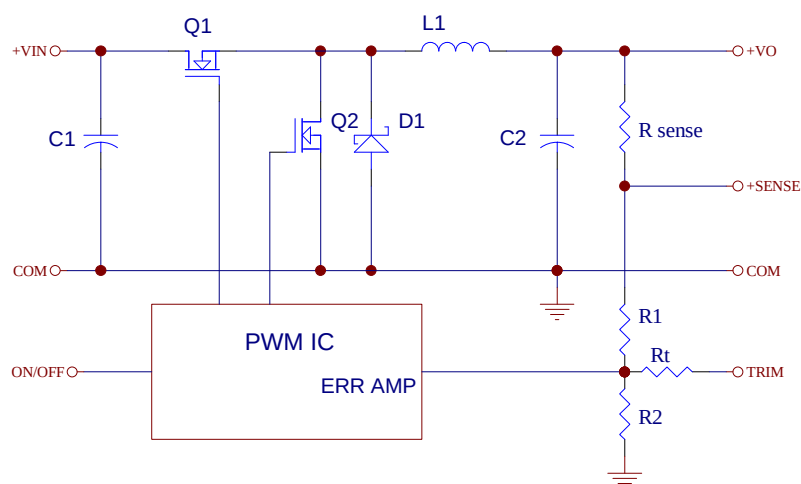


Figure 1. Simplified Schematic

## SPECIFICATIONS

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

### INPUT SPECIFICATIONS:

|                        |            |            |
|------------------------|------------|------------|
| Input Voltage Range    | 5V         | 3.0 – 5.5V |
|                        | 5V         | 4.5 – 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 = Vin |
| Module OFF | <0.4Vdc               |

### OUTPUT SPECIFICATIONS:

|                                          |              |
|------------------------------------------|--------------|
| Voltage Accuracy                         | ±1.5% max.   |
| Transient Response: 25% Step Load Change | <200us       |
| Ripple and Noise, 20MHz BW (note 3)      | 20mVrms max. |

50mVpk-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.    |
| Capacitive Load, Low ESR | 10000uF max.  |
| External Trim Adj. Range | ±10%          |
| Start up time            | 4.5ms typ.    |

### GENERAL SPECIFICATIONS:

|                                     |                                                |
|-------------------------------------|------------------------------------------------|
| Efficiency                          | See Table                                      |
| Isolation Voltage                   | Non-isolation                                  |
| Switching Frequency                 | 300KHz typ.                                    |
| Over Temperature Protection         | 120°C typ.                                     |
| Operating Ambient Temperature Range | -40°C to +85°C                                 |
| Power Derating Curve                | see Figure2, 3                                 |
| Storage Temperature Range           | -55°C to +125°C                                |
| MTBF                                | MIL-STD-217F, GB, 25°C, Full Load 1.5Mhrs typ. |
| Dimensions: SIP Package:            | 2.00x0.52x0.33 inches (50.8x13.2x8.3 mm)       |

SMT Package: 1.30x0.530x0.366 inches (33.0x12.46x9.3 mm)

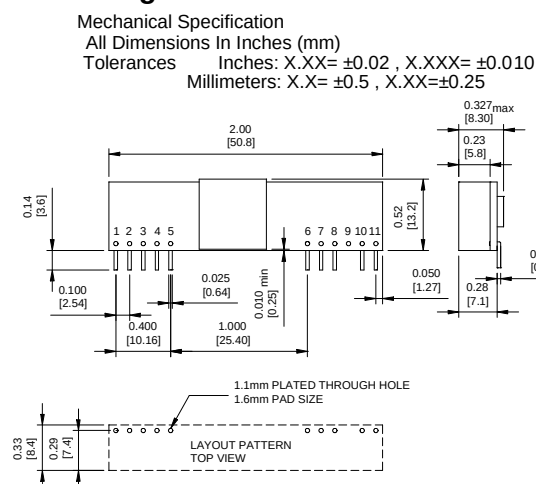
|           |                                 |
|-----------|---------------------------------|
| Structure | Non-potted With Open Frame Type |
| Weight    | 6.8g                            |

### NOTE :

1. Measured From High Line to Low Line
2. Measured From Full Load to Zero Load
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<20mΩ 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

### Dimensions:

#### SIP Packages



#### SMT Packages

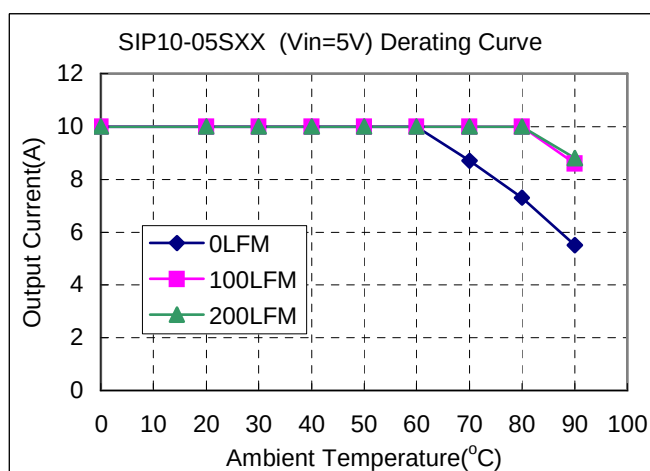
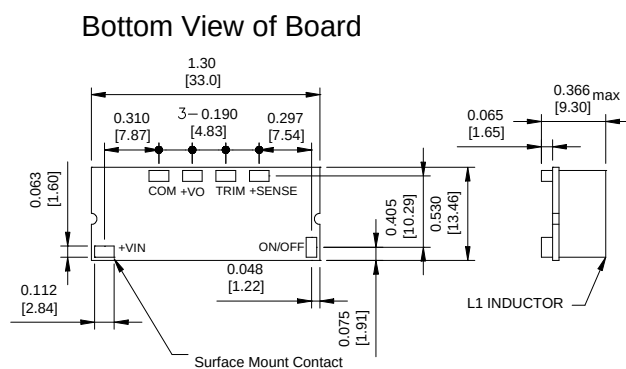


Figure2. Typical Power De-rating for 5V IN

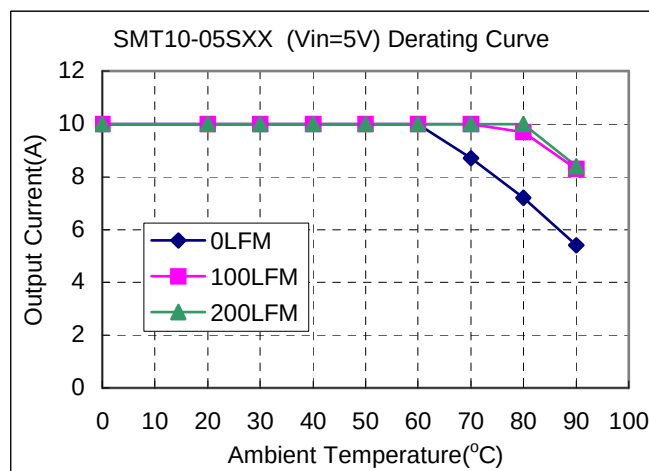


Figure3. Typical Power De-rating for 5V IN

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