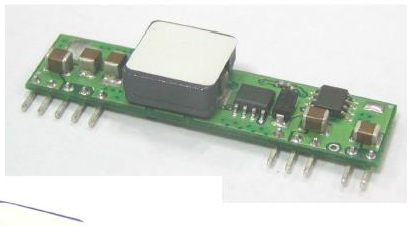
# 10 – 50 Watt SIP&SMT Packages
# Point Of Load DC/DC Converters
# Serie DVO-SIPSMT10-12



E357872

## Features

- 0,75 – 5,0 VDC Wide Output Range
- Non-Isolated Output
- High Efficiency to 95%
- 8,3 – 14,0 VDC Input Range
- 10 Amp Surface Mount Packages
- Over Temperature Protection
- Continuous Short Circuit Protection
- Remote ON/OFF
- 300KHz Switching Frequency
- UL/C-UL60950 Certified

| MODEL NUMBER | INPUT VOLTAGE [ VDC ] | OUTPUT VOLTAGE [ VDC ] | OUTPUT CURRENT [ A ] | INPUT CURRENT NO LOAD [ mA ] | INPUT CURRENT FULL LOAD [ mA ] | EFF. [ % ] | TYPE |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| DV(S)O12-1,0SA10 | 9,0 – 14,0 | 1,0 | 10 | 50 | 992 | 84 | SIP SMT |
| DV(S)O12-1,2SA10 | | 1,2 | 10 | 50 | 1163 | 86 | |
| DV(S)O12-1,5SA10 | | 1,5 | 10 | 50 | 1404 | 89 | |
| DV(S)O12-1,8SA10 | | 1,8 | 10 | 60 | 1666 | 90 | |
| DV(S)O12-2,0SA10 | | 2,0 | 10 | 60 | 1832 | 91 | |
| DV(S)O12-2,5SA10 | | 2,5 | 10 | 60 | 2264 | 92 | |
| DV(S)O12-3,3SA10 | | 3,3 | 10 | 70 | 2956 | 93 | |
| DV(S)O12-5,0SA10 | | 5,0 | 10 | 70 | 4385 | 95 | |
| DV(S)O12-5,0SA10A | 8,3 – 14,0 | 0,75 - 5 | 10 | 70 | 2956 | 93@3,3V | |

NOTE: 1. Nominal Input Voltage 12 VDC
„S“ for SMT

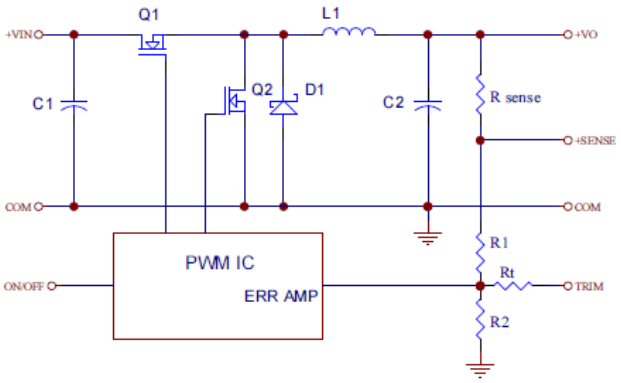



Figure 1. Simplified Schematic

| Vo,set (V) | Rtrim (KΩ) |
|---|---|
| 0.75 | Open |
| 1.2 | 22.33 |
| 1.5 | 13.0 |
| 1.8 | 9.0 |
| 2.0 | 7.4 |
| 2.5 | 5.0 |
| 3.3 | 3.12 |
| 5.0 | 1.47 |

Table 1. Suffix “A” to the model number External Resistor Values for programming output voltage

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### INPUT SPECIFICATIONS:

| | | |
|---|---|---|
| Input Voltage Range | 12V | 9,0 – 14,0VDC |
| | DV(S)O12-5,0SA10A | 8,3 – 14VDC |
| Under Voltage Lock-out | Power up | 8,0V typ. |
| | Power down | 7,7V typ. |
| Input Filter Type | | Capacitive |
| Positive Logic Remote on/off Control: | Module ON | Open Circuit or = Vin |
| | Module OFF | < 0,4 VDC |

### OUTPUT SPECIFICATION:

| | |
|---|---|
| Voltage Accuracy | +/-1,5%max. |
| Transient Response 25% Step Load Change | < 200 µ sec |
| Ripple and Noise, 20 MHz BW Note 2 | 50mV p-p max. / 20mV rms max. |
| Temperature Coefficient | 0,03%/°C max. |
| Short Circuit Protection | Continuous |
| Line Regulation ( From High Line to Low Line ) | ±0,2% max. |
| Load Regulation ( Full Load to Zero Load ) | ±0,5% max. |
| Capacitive Load, Low ESR | 8000 µF max. |
| External Trim Adj. Range | ±10% |
| (DV(S)O12-5,0SA10) | +5%/-10% |
| (DV(S)O12-5,0SA10A) | 0,75 – 5,0VDC |

### GENERAL SPECIFICATIONS:

| | | |
|---|---|---|
| Efficiency | | See Table |
| Isolation Voltage I/O | | Non-Isolation |
| Switching Frequency | | 300KHz typ. |
| Over Temperature Protection | | 120°C typ. |
| Operating Ambient Temperature Range | | -40°C to +85°C |
| Derating Temperature | | see Figure 2&3 |
| Storage Temperature Range | | -55°C to +125°C |
| Dimensions | SMT | 33x13,46x9,3 mm ( 1,3 x 0,53 x 0,366 inches ) |
| | SIP | 50,8x13,00x8,3 mm ( 2.00x0.512x0.327inches ) |
| Structure | | Non-potted With Open Frame Type |

NOTE:
2. The output noise is measured with 10µF tantalum capacitor and 1µF ceramic capacitor across output.
3. The input terminal recommand to parallel with 100 µF Capacitor ESR<100mΩ to reduce the input ripple voltage.
4. Suffix „N“ to the model number with Negative Logic Remote on/off
   Module ON: Open Circuit or < 0,4VDC
   Module OFF: < +2,8 VDC toVin
5. Suffix „A“ to the model number with Adjust Output Voltage Version

All Specifications Typical at Nominal Line, Full Load and 25°C.

## Derating curve

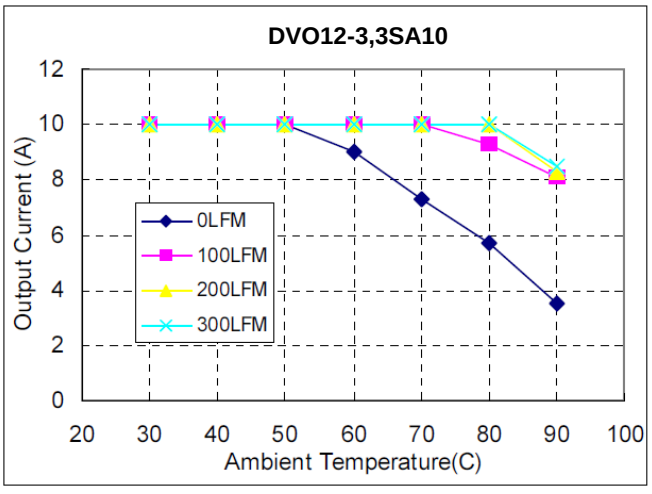


Figure2. Typical Power De-rating for 12V IN

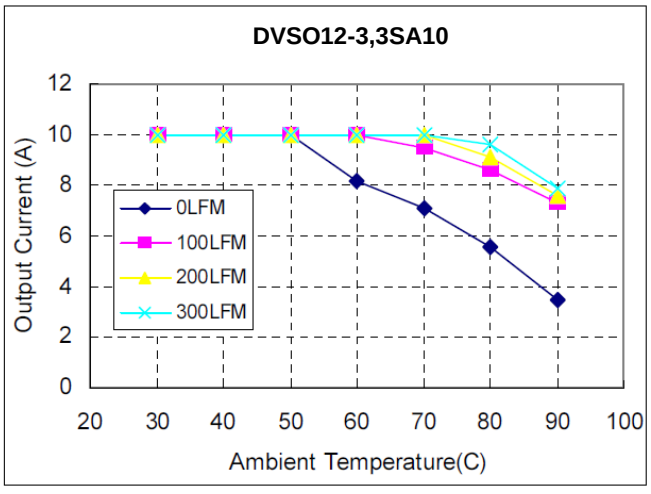


Figure3. Typical Power De-rating for 12V IN



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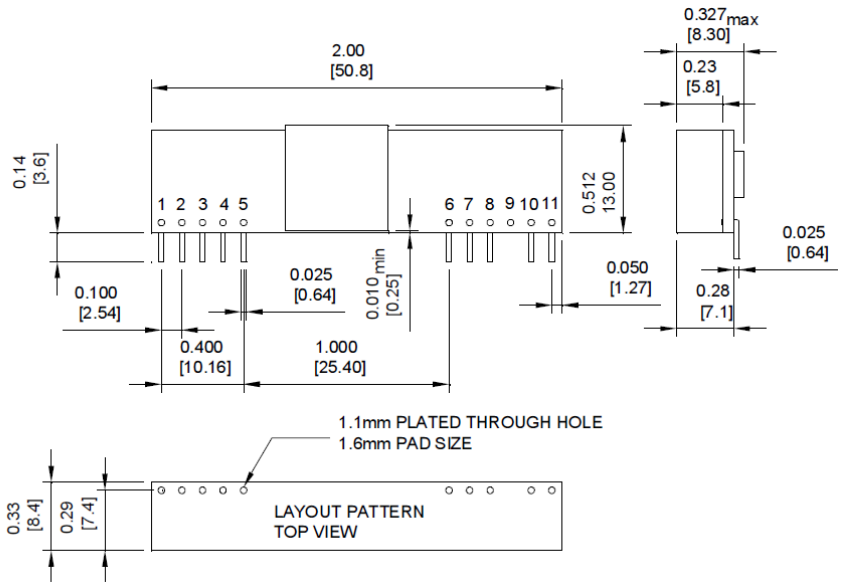
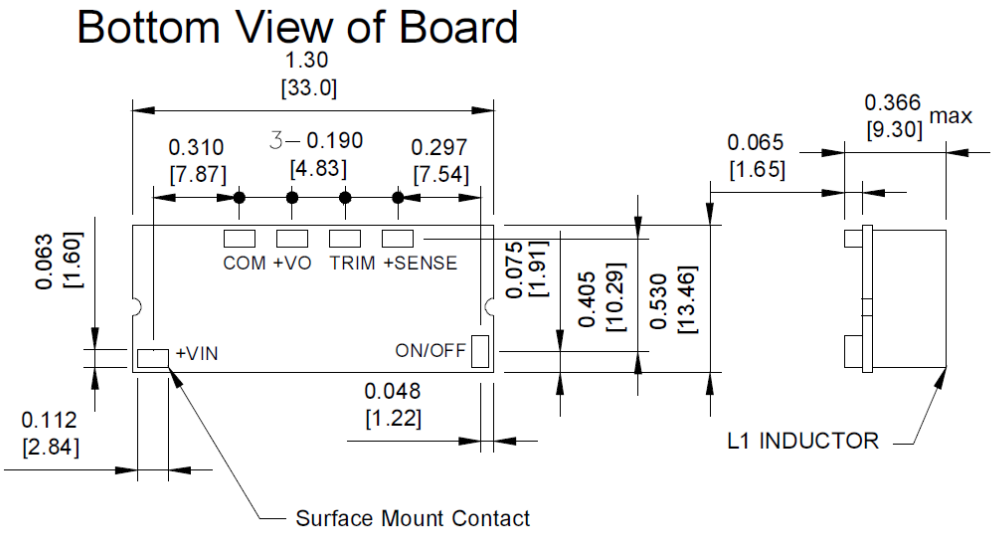
Tolerances Inches: X.XX= ±0.02 , X.XXX= ±0.010
All Dimensions In Inches (mm)
Millimeters: X.X= ±0.5 , X.XX=±0.25

## SIP Packages




| | CONNECTION |
|---|---|
| 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





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