

TOTAL POWER INT'L

ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES

10 WATTS SINGLE & DUAL OUTPUT TPDM11-S & TPDM11-D SERIES



FEATURES:

- **VERY LOW PROFILE 7 MM HIGH.**
- **SINGLE & DUAL OUTPUT.**
- **WIDE 4:1 INPUT RANGE.**
- **10W ISOLATED OUTPUT.**
- **SIX-SIDED METAL SHIELD.**

SPECIFICATION

INPUT SPECIFICATION

Input Range: Wide 4:1 DC input range.
See Ratings Chart.

Input Voltage: Nominal 12/24/48Vdc.

Input Current: Various with input range and load.
See Ratings Chart.

Input Fuse: Use external fuse.

Input Filter: Pi-Network.

Undervoltage Shutdown: 8Vdc.

Isolation Resistor: 1,000 Mega Ohms.

Isolation Voltage: 1,500Vdc.

EMI: Six-sided metal shielding.

Remote On/Off: TTL/CMOS-Compatible Input Control.
Logic input reference to -input/-Vin.
Logic [1]/Open(or 2.5-7.0Vdc above -Vin)=ON.
Logic [2]/Short(or 0-0.08Vdc above -Vin)=OFF.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.

Output Current: See Ratings Chart.

Voltage Accuracy: Main O/P $\pm 2.0\%$ typ.

Line Regulation: $\pm 0.5\%$ typ.

Load Regulation: Single O/P $\pm 1.0\%$ typ.
Dual O/P $\pm 2.0\%$ typ.

Noise & Ripple: Typ. 100mV for 3.3V/5.0V &
1.0% for others peak to peak.

OVP: Built-in on main output.

Adjustability: Not available.

Short Circuit Protection: Power fold back,
Self-recovering.

Overload Protection: About 130% of overrange by
foldback type.

GENERAL SPECIFICATION

Efficiency: Typ.78% various with input.

Switching Frequency: Fixed frequency 450K Hz.

Circuit Topology: 450K Hz. Forward Circuit.

Transient Response: Full to 1/2 load <200 μ Sec.

Case: Black coated aluminum with non-conductive
metal base.

Weight: 20.0g (0.71 Oz.)

Power Density: 17.2Watts./ Cubic inch.

Operating Temperature: -40°C to +85°C range. -25°C to
+71°C @ full load without derating. Derating linearly
3.5%/ °C from +71°C @ full load to +85°C @ half-load.

Storage Temperature: -55°C to +110°C.

Humidity: Up to 95% RH, Non-condensing.

Temperature Coefficient: 0.02% /°C.

Cooling: Convection cooling up to 60°C @F-L. At least
100LFM moving air is recommended for F-L >+60°C in
a confined area.

Commercial Grade: Full load up to +71°C with moving air.

Industrial Grade: +71 to +85°C F-L to H-L with moving air.

NOTE:(1) All measurements are at nominal input, full load and +25°C unless otherwise specified.

(2) Line Regulation measured from High to Low Lines at full load.

(3) Load Regulation measured from Full Load (F-L) to Half-Load (H-L) at nominal input.

(4) Correct fuse size by calculating the max. DC current drain at low Line input & Load and then adding 20-25% for the desired fuse size.

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INPUT/ OUTPUT & VOLTAGE/ CURRENT RATINGS CHART

SINGLE OUTPUT

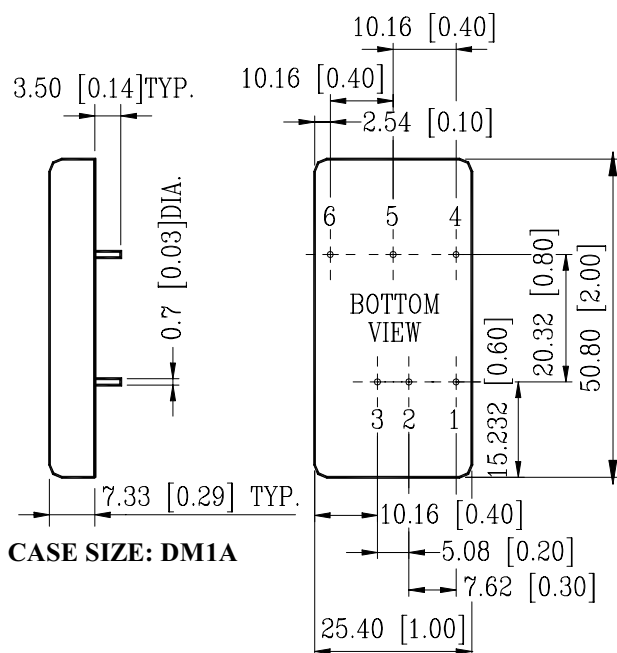
| MODEL NO. | INPUT Vdc | INPUT CURRENT | | OUTPUT VO1(Vdc) | | CASE SIZE |
|----------------|------------|---------------|------|-----------------|--------|-----------|
| | | N.L. (mA) | F.L. | VO1(Vdc) | VO1(A) | |
| TPDM11-12D-S03 | 9.0- 36.0 | 50 | 900 | 3.3V | 2.50A | DM1A |
| TPDM11-12D-S05 | 9.0- 36.0 | 50 | 1070 | 5.0V | 2.00A | DM1A |
| TPDM11-12D-S09 | 9.0- 36.0 | 50 | 1050 | 9.0V | 1.10A | DM1A |
| TPDM11-12D-S12 | 9.0- 36.0 | 50 | 1050 | 12.0V | 0.83A | DM1A |
| TPDM11-12D-S15 | 9.0- 36.0 | 50 | 1050 | 15.0V | 0.67A | DM1A |
| TPDM11-24D-S03 | 9.0- 36.0 | 50 | 450 | 3.3V | 2.50A | DM1A |
| TPDM11-24D-S05 | 9.0- 36.0 | 50 | 535 | 5.0V | 2.00A | DM1A |
| TPDM11-24D-S09 | 9.0- 36.0 | 50 | 525 | 9.0V | 1.10A | DM1A |
| TPDM11-24D-S12 | 9.0- 36.0 | 50 | 525 | 12.0V | 0.83A | DM1A |
| TPDM11-24D-S15 | 9.0- 36.0 | 50 | 525 | 15.0V | 0.67A | DM1A |
| TPDM11-48D-S03 | 18.0- 72.0 | 46 | 220 | 3.3V | 2.50A | DM1A |
| TPDM11-48D-S05 | 18.0- 72.0 | 46 | 260 | 5.0V | 2.00A | DM1A |
| TPDM11-48D-S09 | 18.0- 72.0 | 46 | 255 | 9.0V | 1.10A | DM1A |
| TPDM11-48D-S12 | 18.0- 72.0 | 46 | 255 | 12.0V | 0.83A | DM1A |
| TPDM11-48D-S15 | 18.0- 72.0 | 46 | 255 | 15.0V | 0.67A | DM1A |

DUAL OUTPUT

| MODEL NO. | INPUT Vdc | INPUT CURRENT | | OUTPUT (Vdc) | | OUTPUT(A) | | CASE SIZE |
|----------------|------------|---------------|------|--------------|--------|-----------|-------|-----------|
| | | N.L. (mA) | F.L. | +VO1 | -VO2 | +VO1 | -VO2 | |
| TPDM11-12D-D03 | 9.0- 36.0 | 50 | 910 | +3.3V | -3.3V | 1.25A | 1.25A | DM1A |
| TPDM11-12D-D05 | 9.0- 36.0 | 50 | 1070 | +5.0V | -5.0V | 1.00A | 1.00A | DM1A |
| TPDM11-12D-D12 | 9.0- 36.0 | 50 | 1070 | +12.0V | -12.0V | 0.42A | 0.42A | DM1A |
| TPDM11-12D-D15 | 9.0- 36.0 | 50 | 1040 | +15.0V | -15.0V | 0.33A | 0.33A | DM1A |
| TPDM11-24D-D03 | 9.0- 36.0 | 50 | 455 | +3.3V | -3.3V | 1.25A | 1.25A | DM1A |
| TPDM11-24D-D05 | 9.0- 36.0 | 50 | 535 | +5.0V | -5.0V | 1.00A | 1.00A | DM1A |
| TPDM11-24D-D12 | 9.0- 36.0 | 50 | 535 | +12.0V | -12.0V | 0.42A | 0.42A | DM1A |
| TPDM11-24D-D15 | 9.0- 36.0 | 50 | 520 | +15.0V | -15.0V | 0.33A | 0.33A | DM1A |
| TPDM11-48D-D03 | 18.0- 72.0 | 46 | 220 | +3.3V | -3.3V | 1.25A | 1.25A | DM1A |
| TPDM11-48D-D05 | 18.0- 72.0 | 46 | 260 | +5.0V | -5.0V | 1.00A | 1.00A | DM1A |
| TPDM11-48D-D12 | 18.0- 72.0 | 46 | 260 | +12.0V | -12.0V | 0.42A | 0.42A | DM1A |
| TPDM11-48D-D15 | 18.0- 72.0 | 46 | 255 | +15.0V | -15.0V | 0.33A | 0.33A | DM1A |

MECHANICAL DIMENSIONS: MM [INCHES]

Weight: 20.0g (0.71 Oz.)



PIN ASSIGNMENT

| PIN NO. | SINGLE | DUAL |
|---------|---------------|---------------|
| PIN# 1. | Remote ON/OFF | Remote ON/OFF |
| PIN# 2. | - INPUT/-Vin | - INPUT/-Vin |
| PIN# 3. | + INPUT | + INPUT |
| PIN# 4. | DC-COM | - VO2 |
| PIN# 5. | NC | DC-COM |
| PIN# 6. | VO1 | +VO1 |