

TOTAL POWER INT'L

ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES

30 WATTS SINGLE OUTPUT TPDM30-S,D,T SERIES



FEATURES:

- SINGLE OUTPUT
- WIDE 4:1 & 2:1 INPUT RANGE
- 30W ISOLATED OUTPUT
- SIX-SIDED SHIELD

SPECIFICATION

INPUT SPECIFICATION

Input Range: Wide 4:1 & 2:1 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.

Overshoot Shutdown: Optional. Factory set.

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: $\pm 1.0\%$ typ.

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

OVP: Built-in on main output.

Adjustability: Output may optionally be externally trimmed $\pm 3.0\%$ with a fixed resistor or trim-pot.

Short Circuit Protection: Power fold back.

Overload Protection: About 130% of overrange foldback type.

GENERAL SPECIFICATION

Efficiency: Typ. 81%, various with input.

Switching Frequency: Fixed frequency 100K Hz.

Circuit Topology: Forward Circuit.

Transient Response: Full to 1/2 load $< 200 \mu\text{Sec}$.

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

Weight: 156.0g (5.6 Oz.)

Power Density: 10 Watts. / Cubic inch.

Operating Temperature: -25°C to +71°C range.
-20°C to +60°C @ full load without derating.

Temperature: -40°C to +105°C.

Temperature Coefficient: 0.02% /°C.

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

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

Commercial Grade only.

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 to 1/2 Full Load 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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OUTPUT VOLTAGE / CURRENT RATING CHARTS

SINGLE OUTPUT

Model Number	Input Voltage VDC	Input Current		Output VDC V01	Output (A) V01
		N.L. (mA)	F.L.		
TPDM30-12B-S03	9.0-18.0	30	2300	3.3V	6.40A
TPDM30-12B-S05	9.0-18.0	30	2700	5.0V	5.00A
TPDM30-12B-S09	9.0-18.0	30	2650	9.0V	2.80A
TPDM30-12B-S12	9.0-18.0	30	2750	12.0V	2.20A
TPDM30-12B-S15	9.0-18.0	30	2800	15.0V	1.80A
TPDM30-12B-S24	9.0-18.0	30	3100	24.0V	1.25A
TPDM30-24B-S03	18.0-36.0	20	1150	3.3V	6.40A
TPDM30-24B-S05	18.0-36.0	20	1350	5.0V	5.00A
TPDM30-24B-S09	18.0-36.0	20	1325	9.0V	2.80A
TPDM30-24B-S12	18.0-36.0	20	1375	12.0V	2.20A
TPDM30-24B-S15	18.0-36.0	20	1400	15.0V	1.80A
TPDM30-24B-S24	18.0-36.0	20	1550	24.0V	1.25A
TPDM30-48B-S03	36.0-72.0	15	575	3.3V	6.40A
TPDM30-48B-S05	36.0-72.0	15	675	5.0V	5.00A
TPDM30-48B-S09	36.0-72.0	15	662	9.0V	2.80A
TPDM30-48B-S12	36.0-72.0	15	687	12.0V	2.20A
TPDM30-48B-S15	36.0-72.0	15	700	15.0V	1.80A
TPDM30-48B-S24	36.0-72.0	15	775	24.0V	1.25A
TPDM30-12D-S03	9.0-36.0	30	2350	3.3V	6.40A
TPDM30-12D-S05	9.0-36.0	30	2750	5.0V	5.00A
TPDM30-12D-S09	9.0-36.0	30	2700	9.0V	2.80A
TPDM30-12D-S12	9.0-36.0	30	2800	12.0V	2.20A
TPDM30-12D-S15	9.0-36.0	30	2850	15.0V	1.80A
TPDM30-12D-S24	9.0-36.0	30	3150	24.0V	1.25A
TPDM30-48D-S03	20.0-72.0	30	587	3.3V	6.40A
TPDM30-48D-S05	20.0-72.0	30	687	5.0V	5.00A
TPDM30-48D-S09	20.0-72.0	30	675	9.0V	2.80A
TPDM30-48D-S12	20.0-72.0	30	700	12.0V	2.20A
TPDM30-48D-S15	20.0-72.0	30	712	15.0V	1.80A
TPDM30-48D-S24	20.0-72.0	30	787	24.0V	1.25A

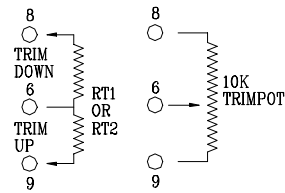
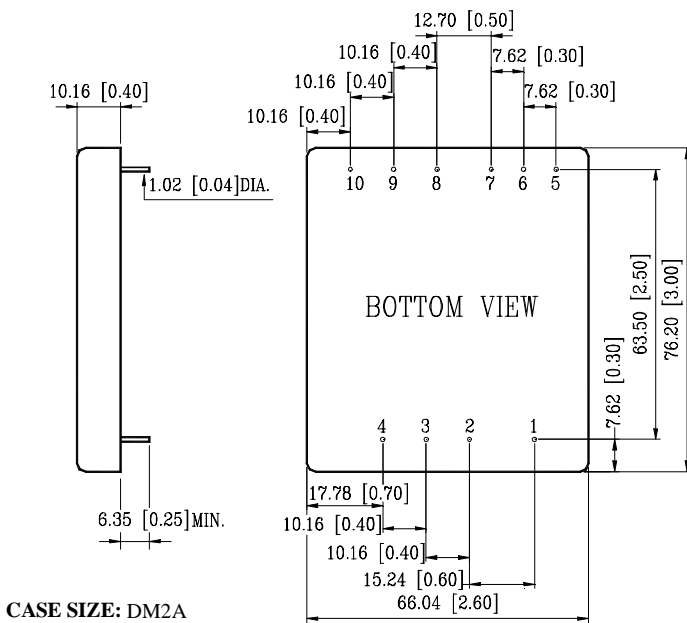
DUAL OUTPUT

Model Number	Input Voltage VDC	Input Current		Output		Output	
		N.L. (mA)	F.L.	V01	V02	A	
TPDM30-12B-D05	9.0-18.0	30	2670	+5.0V	-5.0V	2.50A	2.50A
TPDM30-12B-D12	9.0-18.0	30	2500	+12.0V	-12.0V	1.00A	1.00A
TPDM30-12B-D15	9.0-18.0	30	2590	+15.0V	-15.0V	0.83A	0.83A
TPDM30-24B-D05	18.0-36.0	20	1560	+5.0V	-5.0V	3.00A	3.00A
TPDM30-24B-D12	18.0-36.0	20	1525	+12.0V	-12.0V	1.25A	1.25A
TPDM30-24B-D15	18.0-36.0	20	1525	+15.0V	-15.0V	1.00A	1.00A
TPDM30-48B-D05	36.0-72.0	20	780	+5.0V	-5.0V	3.00A	3.00A
TPDM30-48B-D12	36.0-72.0	20	763	+12.0V	-12.0V	1.25A	1.25A
TPDM30-48B-D15	36.0-72.0	20	763	+15.0V	-15.0V	1.00A	1.00A
TPDM30-12D-D05	9.0-36.0	40	2700	+5.0V	-5.0V	2.50A	2.50A
TPDM30-12D-D12	9.0-36.0	40	2530	+12.0V	-12.0V	1.00A	1.00A
TPDM30-12D-D15	9.0-36.0	40	2620	+15.0V	-15.0V	0.83A	0.83A
TPDM30-48D-D05	20.0-72.0	30	800	+5.0V	-5.0V	3.00A	3.00A
TPDM30-48D-D12	20.0-72.0	30	775	+12.0V	-12.0V	1.25A	1.25A
TPDM30-48D-D15	20.0-72.0	30	775	+15.0V	-15.0V	1.00A	1.00A

TRIPLE OUTPUT

Model Number	Input Voltage VDC	Input Current		Output (VDC)			Output (A)		
		N.L. (mA)	F.L.	V01	V02	V03			
TPDM30-12B-T5/12	9.0-18.0	50	2550	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A
TPDM30-12B-T5/15	9.0-18.0	50	2550	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A
TPDM30-12B-T5/+12,-5	9.0-18.0	50	2550	+5.0V	+12.0V	-5.0V	2.5A	0.5A	1.0A
TPDM30-24B-T5/12	18.0-36.0	40	1520	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A
TPDM30-24B-T5/15	18.0-36.0	40	1550	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A
TPDM30-24B-T5/+12,-5	18.0-36.0	40	1420	+5.0V	+12.0V	-5.0V	3.0A	0.6A	1.0A
TPDM30-48B-T5/12	36.0-72.0	40	760	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A
TPDM30-48B-T5/15	36.0-72.0	40	775	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A
TPDM30-48B-T5/+12,-5	36.0-72.0	40	710	+5.0V	+12.0V	-5.0V	3.0A	0.6A	1.0A
TPDM30-12D-T5/12	9.0-36.0	40	2650	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A
TPDM30-12D-T5/15	9.0-36.0	40	2650	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A
TPDM30-12D-T5/+12,-5	9.0-36.0	40	2600	+5.0V	+12.0V	-5.0V	2.5A	0.5A	1.0A
TPDM30-48D-T5/12	20.0-72.0	50	785	+5.0V	+12.0V	-12.0V	3.0V	0.6A	0.6A
TPDM30-48D-T5/15	20.0-72.0	50	800	+5.0V	+15.0V	-15.0V	3.0V	0.5A	0.5A
TPDM30-48D-T5/+12,-5	20.0-72.0	50	735	+5.0V	+12.0V	-5.0V	3.0V	0.6A	1.0A

Mechanical Drawing



PIN ASSIGNMENT

PIN NO.	SINGLE
PIN #1.	Remote ON/OFF
PIN #2.	+INPUT
PIN #3.	-INPUT/-Vin
PIN #4.	NC
PIN #5.	NC
PIN #6.	OUTPUT TRIM
PIN #7.	NC
PIN #8.	+VO1
PIN #9.	DC-COM
PIN #10.	NC