

HiTRON

ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 15 WATTS OUTPUT HDM14.5-S SERIES



FEATURES:

- SINGLE OUTPUT.
- 2:1 INPUT RANGE.
- 15W ISOLATED OUTPUT.
- SIX-SIDED METAL SHIELD.

SPECIFICATION

INPUT SPECIFICATION

Input Range: 2:1 DC input range.
See Ratings Chart.
Input Voltage: Nominal 12/24/48Vdc.
Input Current: Various with input range & 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 $\pm 1.0\%$ 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, Self-recovering.
Overload Protection: About 130% of overrange foldback type.

GENERAL SPECIFICATION

Efficiency: Typ. 81% various with input.
Switching Frequency: Fixed frequency 450K Hz.
Circuit Topology: 450K Hz. Forward Circuit.
Transient Response: Full to 1/2 load $< 200 \mu\text{Sec}$.
Case: Black coated steel with non-conductive metal base.
Weight: 38.0g (1.34 Oz.)
Power Density: 15.5Watts./ 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 $> +60^\circ\text{C}$ 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.

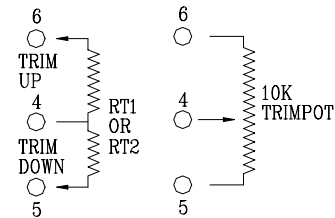
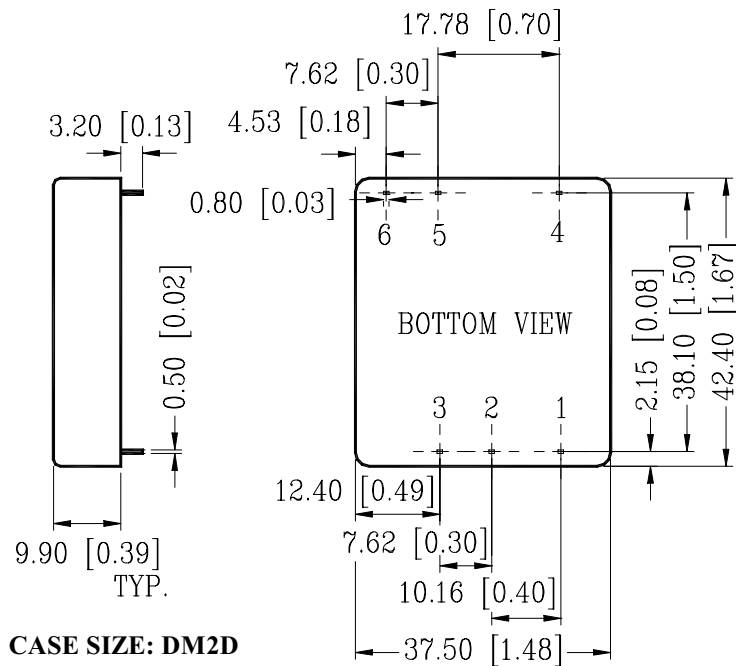
INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

SINGLE OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT N.L. (mA) F.L.		OUTPUT VO1(Vdc)	OUTPUT VO1(A)	CASE SIZE
HDM14.5-12B-S03	9.0- 18.0	30	1200	3.3V	3.00A	DM2D
HDM14.5-12B-S05	9.0- 18.0	20	1540	5.0V	3.00A	DM2D
HDM14.5-12B-S09	9.0- 18.0	20	1540	9.0V	1.66A	DM2D
HDM14.5-12B-S12	9.0- 18.0	20	1540	12.0V	1.25A	DM2D
HDM14.5-12B-S15	9.0- 18.0	20	1540	15.0V	1.00A	DM2D
HDM14.5-24B-S03	18.0- 36.0	20	580	3.3V	3.00A	DM2D
HDM14.5-24B-S05	18.0- 36.0	10	770	5.0V	3.00A	DM2D
HDM14.5-24B-S09	18.0- 36.0	10	770	9.0V	1.66A	DM2D
HDM14.5-24B-S12	18.0- 36.0	10	760	12.0V	1.25A	DM2D
HDM14.5-24B-S15	18.0- 36.0	10	760	15.0V	1.00A	DM2D
HDM14.5-48B-S03	36.0- 72.0	20	290	3.3V	3.00A	DM2D
HDM14.5-48B-S05	36.0- 72.0	10	385	5.0V	3.00A	DM2D
HDM14.5-48B-S09	36.0- 72.0	10	385	9.0V	1.66A	DM2D
HDM14.5-48B-S12	36.0- 72.0	10	380	12.0V	1.25A	DM2D
HDM14.5-48B-S15	36.0- 72.0	10	389	15.0V	1.00A	DM2D

MECHANICAL DIMENSIONS: MM [INCHES]

Weight: 38.0g(1.34 Oz.)



PIN ASSIGNMENT

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