H HiTRON

PCB-MOUNT DC-DC CONVERTER ENCAPSULATED MODULES
9 WATTS SINGLE & DUAL OUTPUT HDM09-S & HDM09-D SERIES



FEATURES:

- **LOW COST SINGLE & DUAL OUTPUT**
- **2:1 INPUT RANGE**
- **9W ISOLATED OUTPUT**
- **SIX-SIDED METAL SHIELD**

SPECIFICATION

INPUT SPECIFICATION

Input Range: 2:1 DC input range.
See Ratings Chart.

Input Voltage: Nominal 12/24/48 Vdc.

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

Input Fuse: Use external fuse.

Input Filter: Pi-Network.

Isolation Resistance: 1,000 Mega Ohms.

Isolation Voltage: 1,500Vdc.

EMI: Six-sided metal shielding.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Voltage Accuracy: Main O/P ±2.0% typical.
Line Regulation: Various with output voltages. ±0.5% typ.
Load Regulation: Various with output voltages.
Single O/P ±1.0% typical.
Dual O/P ±2.0% typical.
Noise & Ripple: Typical 100mV for 3.3V/5.0V &
1.0% for others peak to peak.
OVP: Built-in on main output.
Adjustability: Not available.
Overload Protection (OLP):
Fully protected against output overload and short circuit.
Typical 120-150% max. load.
Consult the factory for special OLP setting.

GENERAL SPECIFICATION

Efficiency: 65-75% typical various with input.
Switching Frequency: 40-70K Hz., various with input and loading condition.
Circuit Topology: Free Running Flyback Circuit.
Transient Response: Peak deviation 200mV.
Recovery time < 3mS for a 25% load change.
Case: Black coated steel with non-conductive metal base.
Power Density: 5.6Watts. / Cubic inch.
MTBF: 1,000,000 hours. Mil Std 217, 25°C.

Operating Temperature: -10°C to +70°C range.
0°C to +60°C @ full load without derating.
From+60°C, derating lineally to half load@ +70°C.
(Refer to the Derating Chart).
Temperature: -20°C to +85°C.
Temperature Coefficient: ± 0.03% /°C.
Cooling: Convection cooling up to +60°C @ full load.
At least 100LFM moving air is recommended for Full load > +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.

Due to requests in market and advances in technology, specifications subject to change without notice.

INPUT/ OUTPUT & VOLTAGE/ CURRENT RATINGS CHART

SINGLE OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT (mA) N. L.	F.L.	OUTPUT ★ VO1(Vdc)	OUTPUT VO1(A)	CASE SIZE
HDM09-12B-S03	**9.0- 18.0**	60	650	**3.3V**	**1.65A**	DM2B
HDM09-12B-S05	**9.0- 18.0**	60	930	**5.0V**	**1.65A**	DM2B
HDM09-12B-S09	**9.0- 18.0**	60	950	**9.0V**	**0.95A**	DM2B
HDM09-12B-S12	**9.0- 18.0**	60	940	**12.0V**	**0.70A**	DM2B
HDM09-12B-S15	**9.0- 18.0**	60	990	**15.0V**	**0.60A**	DM2B
HDM09-12B-S24	**9.0- 18.0**	60	1060	**24.0V**	**0.40A**	DM2B
HDM09-24B-S03	**18.0- 36.0**	35	325	**3.3V**	**1.65A**	DM2B
HDM09-24B-S05	**18.0- 36.0**	35	465	**5.0V**	**1.65A**	DM2B
HDM09-24B-S09	**18.0- 36.0**	35	475	**9.0V**	**0.95A**	DM2B
HDM09-24B-S12	**18.0- 36.0**	35	470	**12.0V**	**0.70A**	DM2B
HDM09-24B-S15	**18.0- 36.0**	35	495	**15.0V**	**0.60A**	DM2B
HDM09-24B-S24	**18.0- 36.0**	35	530	**24.0V**	**0.40A**	DM2B
HDM09-48B-S03	**36.0- 72.0**	20	163	**3.3V**	**1.65A**	DM2B
HDM09-48B-S05	**36.0- 72.0**	20	233	**5.0V**	**1.65A**	DM2B
HDM09-48B-S09	**36.0- 72.0**	20	238	**9.0V**	**0.95A**	DM2B
HDM09-48B-S12	**36.0- 72.0**	20	235	**12.0V**	**0.70A**	DM2B
HDM09-48B-S15	**36.0- 72.0**	20	247	**15.0V**	**0.60A**	DM2B
HDM09-48B-S24	**36.0- 72.0**	20	265	**24.0V**	**0.40A**	DM2B

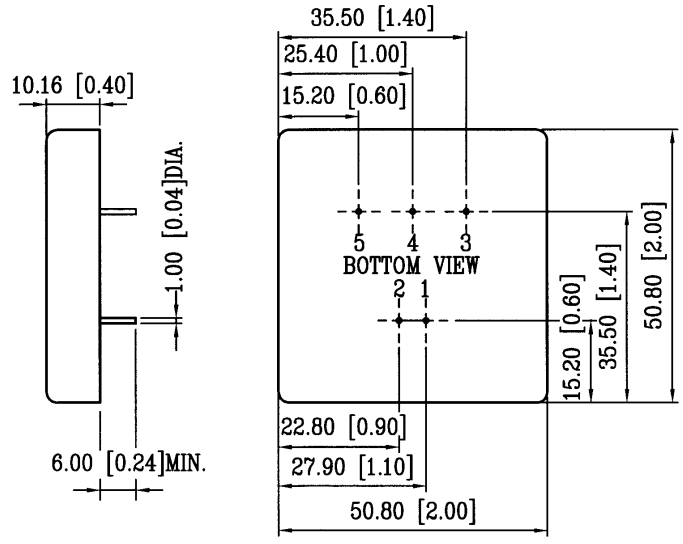
DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT (mA) N. L.	F.L.	OUTPUT (Vdc) +VO1 ★	-VO2 ‖	OUTPUT (A) +VO1	-VO2	CASE SIZE
HDM09-12B-D05	**9.0- 18.0**	50	960	**+5.0V**	**-5.0V**	**0.85A**	**0.85A**	DM2B
HDM09-12B-D12	**9.0- 18.0**	50	970	**+12.0V**	**-12.0V**	**0.36A**	**0.36A**	DM2B
HDM09-12B-D15	**9.0- 18.0**	50	990	**+15.0V**	**-15.0V**	**0.30A**	**0.30A**	DM2B
HDM09-24B-D05	**18.0- 36.0**	30	480	**+5.0V**	**-5.0V**	**0.85A**	**0.85A**	DM2B
HDM09-24B-D12	**18.0- 36.0**	30	485	**+12.0V**	**-12.0V**	**0.36A**	**0.36A**	DM2B
HDM09-24B-D15	**18.0- 36.0**	30	495	**+15.0V**	**-15.0V**	**0.30A**	**0.30A**	DM2B
HDM09-48B-D05	**36.0- 72.0**	20	240	**+5.0V**	**-5.0V**	**0.85A**	**0.85A**	DM2B
HDM09-48B-D12	**36.0- 72.0**	20	243	**+12.0V**	**-12.0V**	**0.36A**	**0.36A**	DM2B
HDM09-48B-D15	**36.0- 72.0**	20	248	**+15.0V**	**-15.0V**	**0.30A**	**0.30A**	DM2B

Symbols: "★" OVP built-in. "‖" Double Feedback.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 62.5g (2.2 Oz.)



CASE SIZE: DM2B

PIN ASSIGNMENT

PIN NO.	SINGLE	DUAL
PIN #1	-INPUT	-INPUT
PIN #2	+ INPUT	+ INPUT
PIN #3	DC-COM	-VO2
PIN #4	PO PIN	DC-COM
PIN #5	VO1	+ VO1

DERATING CHART

