



PCB-MOUNT DC-DC CONVERTER ENCAPSULATED MODULES 30 WATTS SINGLE OUTPUT HDM30-S 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.

Overvoltage 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.
(Voltage refer to the -Input)

Positive Logic version for Standard set up:
ON(Enable)=Open(or 2.5-5.0Vdc above-Vin).
OFF(Disable)=Short(or 0-0.8Vdc above-Vin).

Negative Logic version option available by adding a
"N" suffix to the end of Model #.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.

Output Current: See Ratings Chart.

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

Line Regulation: Various with input & output voltages.
 $\pm 0.5\%$ typical.

Load Regulation: Various with output voltages.
 $\pm 1.0\%$ typical.

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

OVP: Built-in on main output.

Overload Protection (OLP):
Fully protected against output overload and short circuit.
OLP set at about 125-150% rating output wattage.
Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: 81% typical various with input.

Switching Frequency: Fixed frequency 100K Hz.

Circuit Topology: Forward Circuit.

Transient Response: Peak deviation 200mV,
Recovery time < 3mSec.@ 25% step load change.

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

Power Density: 10 Watts. / Cubic inch.

MTBF: Type 1,000,000 hours to Mil. Std.217, 25°C.

Operating Temperature: -10 to +70°C range.
0°C to +60°C full load without derating.
From +60°C, derating linearly to half load @+70°C.
(Refer to Derating Chart.)

Temperature: -20°C to +85°C.

Temperature Coefficient: 0.02% /°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.

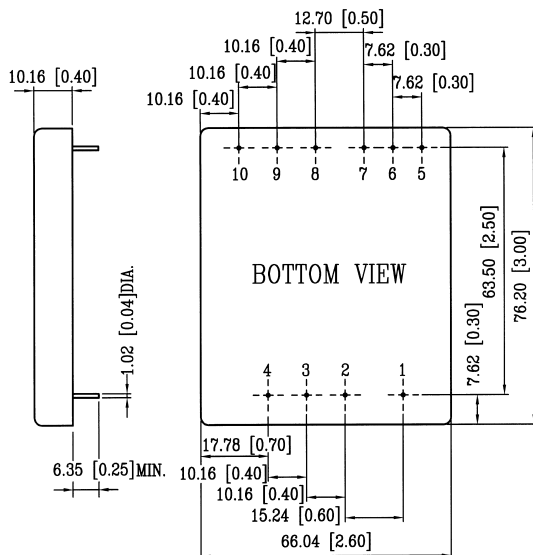
INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

SINGLE OUTPUT

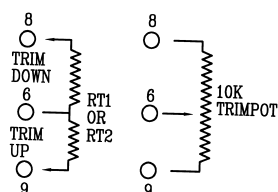
MODEL NO.	INPUT Vdc	INPUT CURRENT N. L. (mA) F.L.		OUTPUT VO1(Vdc) @★	OUTPUT VO1(A)	CASE SIZE
HDM30-12B-S03	9.0- 18.0	30	2300	3.3V	6.40A	DM2A
HDM30-12B-S05	9.0- 18.0	30	2700	5.0V	5.00A	DM2A
HDM30-12B-S09	9.0- 18.0	30	2650	9.0V	2.80A	DM2A
HDM30-12B-S12	9.0- 18.0	30	2750	12.0V	2.20A	DM2A
HDM30-12B-S15	9.0- 18.0	30	2800	15.0V	1.80A	DM2A
HDM30-12B-S24	9.0- 18.0	30	3100	24.0V	1.25A	DM2A
HDM30-24B-S03	18.0- 36.0	20	1150	3.3V	6.40A	DM2A
HDM30-24B-S05	18.0- 36.0	20	1350	5.0V	5.00A	DM2A
HDM30-24B-S09	18.0- 36.0	20	1325	9.0V	2.80A	DM2A
HDM30-24B-S12	18.0- 36.0	20	1375	12.0V	2.20A	DM2A
HDM30-24B-S15	18.0- 36.0	20	1400	15.0V	1.80A	DM2A
HDM30-24B-S24	18.0- 36.0	20	1550	24.0V	1.25A	DM2A
HDM30-48B-S03	36.0- 72.0	15	575	3.3V	6.40A	DM2A
HDM30-48B-S05	36.0- 72.0	15	675	5.0V	5.00A	DM2A
HDM30-48B-S09	36.0- 72.0	15	662	9.0V	2.80A	DM2A
HDM30-48B-S12	36.0- 72.0	15	687	12.0V	2.20A	DM2A
HDM30-48B-S15	36.0- 72.0	15	700	15.0V	1.80A	DM2A
HDM30-48B-S24	36.0- 72.0	15	775	24.0V	1.25A	DM2A
HDM30-24D-S03	9.0- 36.0	30	1175	3.3V	6.40A	DM2A
HDM30-24D-S05	9.0- 36.0	30	1375	5.0V	5.00A	DM2A
HDM30-24D-S09	9.0- 36.0	30	1350	9.0V	2.80A	DM2A
HDM30-24D-S12	9.0- 36.0	30	1400	12.0V	2.20A	DM2A
HDM30-24D-S15	9.0- 36.0	30	1425	15.0V	1.80A	DM2A
HDM30-24D-S24	9.0- 36.0	30	1575	24.0V	1.25A	DM2A
HDM30-48D-S03	20.0- 72.0	20	587	3.3V	6.40A	DM2A
HDM30-48D-S05	20.0- 72.0	20	687	5.0V	5.00A	DM2A
HDM30-48D-S09	20.0- 72.0	20	675	9.0V	2.80A	DM2A
HDM30-48D-S12	20.0- 72.0	20	700	12.0V	2.20A	DM2A
HDM30-48D-S15	20.0- 72.0	20	712	15.0V	1.80A	DM2A
HDM30-48D-S24	20.0- 72.0	20	787	24.0V	1.25A	DM2A

Symbols: "★" OVP built-in. "@" Adjustable.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 156.0g (5.6 Oz.)

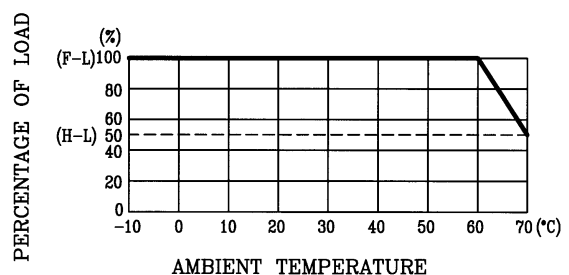
CASE SIZE: DM2A



PIN ASSIGNMENT

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

DERATING CHART





PCB-MOUNT DC-DC CONVERTER ENCAPSULATED MODULES 30 WATTS DUAL OUTPUT HDM30-D SERIES



FEATURES:

- DUAL OUTPUT
- WIDE 4:1 & 2:1 INPUT RANGE
- 30W ISOLATED OUTPUT
- SIX-SIDED METAL 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.

Overvoltage 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.
(Voltage refer to the -Input).

Positive Logic version for Standard set up:
ON(Enable)=Open(or 2.5-5.0Vdc above-Vin).
OFF(Disable)=Short(or 0-0.8Vdc above-Vin).

Negative Logic version option available by adding a
 "N" suffix to the end of Model #.

Remark: Logic voltage refer to -Input (-Vin)

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.

Output Current: See Ratings Chart.

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

Line Regulation: Various with input voltages.
 $\pm 0.5\%$ typical.

Load Regulation: Various with output voltages.
 VO1 $\pm 1.0\%$ typical.
 VO2 $\pm 2.0\%$ typical.

Noise & Ripple: 100mV for 3.3V/5.0V & 1.0% typical
 for other output peak to peak.

OVP: Built-in on main output.

Adjustability: VO1 O/P may optionally be external
 trimmed $\pm 3.0\%$ with a fixed resistors or trim-pot.

Overload Protection (OLP):
 Fully protected against output overload and short circuit.
 OLP set at about 125-150% rating output wattage.
 Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: 76- 81% typical, various with input &
 output voltage.

Switching Frequency: Fixed frequency 100K Hz.

Circuit Topology: 100K Hz. Forward Circuit.

Transient Response: Peak deviation 200mV,
 Recovery time < 3mSec. @ 25% step load change.

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

Power Density: 10.0 Watts. / Cubic inch.

MTBF: 1,000,000 hours to Mil. Std. 271, 25°C.

Operating Temperature: -10°C to +70°C range.
 0°C to +60°C @ full load without derating.
 From +60°C, derating linearly to half load@+70°C.
 (Refer to the Derating Chart).

Temperature: -20°C to +85°C.

Temperature Coefficient: $\pm 0.03\%$ /°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 drains 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

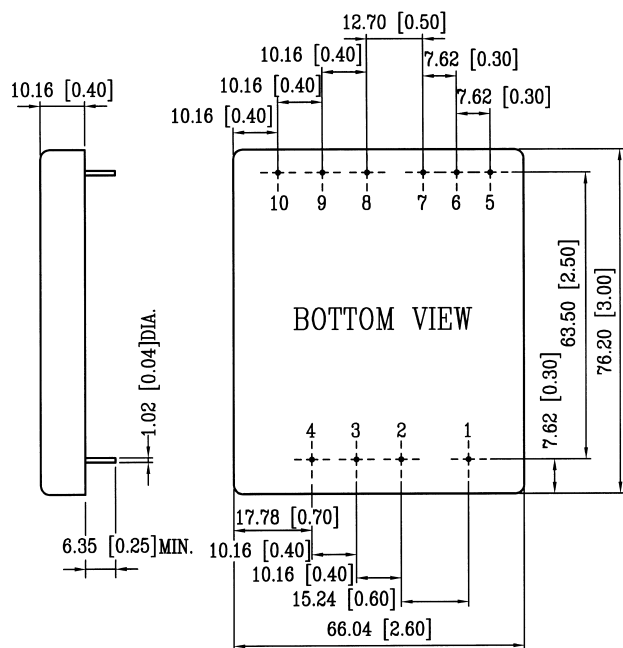
DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT (Vdc)		OUTPUT (A)		CASE SIZE
		N.L. (mA)	F.L.	+VO1@★	-VO2	+VO1	-VO2	
HDM30-12B-D05	9.0- 18.0	30	2,670	+5.0V	-5.0V	2.50A	2.50A	DM2A
HDM30-12B-D12	9.0- 18.0	30	2,500	+12.0V	-12.0V	1.00A	1.00A	DM2A
HDM30-12B-D15	9.0- 18.0	30	2,590	+15.0V	-15.0V	0.83A	0.83A	DM2A
HDM30-24B-D05	18.0- 36.0	20	1,560	+5.0V	-5.0V	3.00A	3.00A	DM2A
HDM30-24B-D12	18.0- 36.0	20	1,525	+12.0V	-12.0V	1.25A	1.25A	DM2A
HDM30-24B-D15	18.0- 36.0	20	1,525	+15.0V	-15.0V	1.00A	1.00A	DM2A
HDM30-48B-D05	36.0- 72.0	20	780	+5.0V	-5.0V	3.00A	3.00A	DM2A
HDM30-48B-D12	36.0- 72.0	20	763	+12.0V	-12.0V	1.25A	1.25A	DM2A
HDM30-48B-D15	36.0- 72.0	20	763	+15.0V	-15.0V	1.00A	1.00A	DM2A
HDM30-24D-D05	9.0- 36.0	40	1,350	+ 5.0V	- 5.0V	2.50A	2.50A	DM2A
HDM30-24D-D12	9.0- 36.0	40	1,265	+12.0V	-12.0V	1.00A	1.00A	DM2A
HDM30-24D-D15	9.0- 36.0	40	1,310	+15.0V	-15.0V	0.83A	0.83A	DM2A
HDM30-48D-D05	20.0- 72.0	30	800	+5.0V	-5.0V	3.00A	3.00A	DM2A
HDM30-48D-D12	20.0- 72.0	30	775	+12.0V	-12.0V	1.25A	1.25A	DM2A
HDM30-48D-D15	20.0- 72.0	30	775	+15.0V	-15.0V	1.00A	1.00A	DM2A

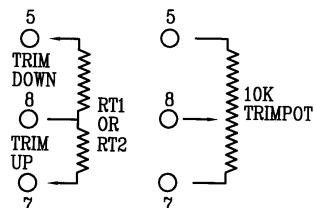
Symbols: "★" OVP built-in. "@" Adjustable. "||" Double Feedback.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 156.0g (5.6 Oz.)



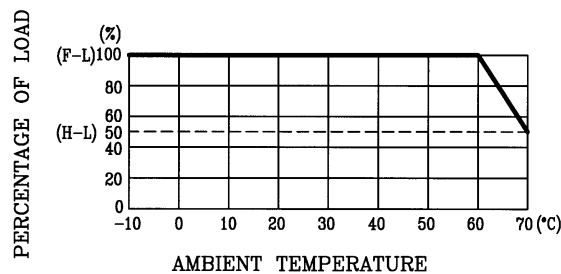
CASE SIZE: DM2A



PIN ASSIGNMENT

PIN NO.	DUAL
PIN# 1.	Remote ON/OFF
PIN# 2.	+ INPUT
PIN# 3.	-INPUT/-Vin
PIN# 4.	NO PIN
PIN# 5.	+VO1
PIN# 6.	DC-COM
PIN# 7.	-VO2
PIN# 8.	OUTPUT TRIM
PIN# 9.	NO PIN
PIN# 10.	NO PIN

DERATING CHART





PCB-MOUNT DC-DC CONVERTER ENCAPSULATED MODULES 30 WATTS TRIPLE OUTPUT HDM30-T SERIES



FEATURES:

- TRIPLE OUTPUT
- WIDE 4:1 & 2:1 INPUT RANGE
- 30W ISOLATED OUTPUT
- SIX-SIDED METAL 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.
Overvoltage 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.
 Positive Logic version for Standard set up:
 ON(Enable)=Open(or 2.5-5.0Vdc above-Vin)
 OFF(Disable)=Short(or 0-0.8Vdc above-Vin)
 Negative Logic version option available by adding a
 “N” suffix to the end of Model #.
 Remark: [Voltage refer to -Input (-Vin)].

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Voltage Accuracy: Main O/P $\pm 2.0\%$ typical.
Line Regulation: Various with input voltages. $\pm 0.5\%$ typ.
Load Regulation: Various with output voltages.
 VO1 & VO3 $\pm 2.0\%$ typical.
 VO2 $\pm 5.0\%$ typical.
Noise & Ripple: 100mV for 3.3V/5.0V & 1.0% typical
 for other output peak to peak.
OVP: Built-in on main output.
Adjustability: VO1 O/P may optionally be external
 trimmed $\pm 3.0\%$ with a fixed resistors or trim-pot.
Overload Protection (OLP):
 Fully protected against output overload and short circuit.
 OLP set at about 125-150% rating output wattage.
 Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: 78-81% typical, various with input &
 output voltage.
Switching Frequency: Fixed frequency 100K Hz.
Circuit Topology: 100K Hz. Forward Circuit.
Transient Response: Peak deviation 200mV,
 Recovery time < 3mSec. @ 25% step load change.
Case: Black coated copper with non-conductive metal base.
Power Density: 10.0 Watts. / Cubic inch.
MTBF: 1,000,000 hours Mil.Std.271, 25°C.
Operating Temperature: -10°C to +70°C range.
 0°C to +60°C @ full load without derating.
 From +60°C derating linearly to half load @ +70°C.
 (Refer to the Derating Chart).
Storage Temperature: -20 to +85°C.
Temperature Coefficient: $\pm 0.03\%$ /°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 drains 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

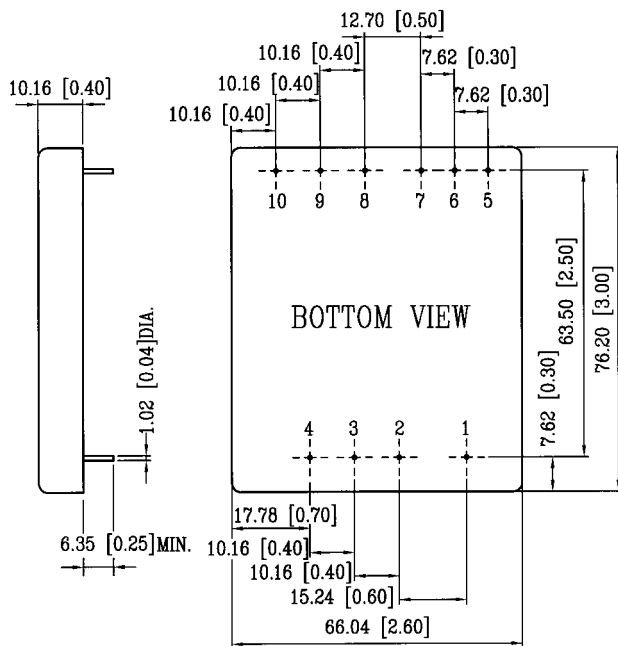
TRIPLE OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT (Vdc)			OUTPUT (A)			CASE SIZE
		N.L. (mA)	F.L.	+VO1★@	+VO2†	-VO3	+VO1	+VO2	-VO3	
HDM30-12B-T5/12	9.0- 18.0	50	2,550	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A	DM2A
HDM30-12B-T5/15	9.0- 18.0	50	2,550	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A	DM2A
HDM30-12B-T5/+12,-5	9.0- 18.0	50	2,500	+5.0V	+12.0V	- 5.0V	2.5A	0.5A	1.0A	DM2A
HDM30-24B-T5/12	18.0- 36.0	40	1,520	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A	DM2A
HDM30-24B-T5/15	18.0- 36.0	40	1,550	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A	DM2A
HDM30-24B-T5/+12,-5	18.0- 36.0	40	1,420	+5.0V	+12.0V	- 5.0V	3.0A	0.6A	1.0A	DM2A
HDM30-48B-T5/12	36.0- 72.0	40	760	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A	DM2A
HDM30-48B-T5/15	36.0- 72.0	40	775	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A	DM2A
HDM30-48B-T5/+12,-5	36.0- 72.0	40	710	+5.0V	+12.0V	- 5.0V	3.0A	0.6A	1.0A	DM2A
HDM30-24D-T5/12	9.0- 36.0	60	1,325	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A	DM2A
HDM30-24D-T5/15	9.0- 36.0	60	1,325	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A	DM2A
HDM30-24D-T5/+12,-5	9.0- 36.0	60	1,300	+5.0V	+12.0V	- 5.0V	2.5A	0.5A	1.0A	DM2A
HDM30-48D-T5/12	20.0- 72.0	50	785	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A	DM2A
HDM30-48D-T5/15	20.0- 72.0	50	800	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A	DM2A
HDM30-48D-T5/+12,-5	20.0- 72.0	50	735	+5.0V	+12.0V	- 5.0V	3.0A	0.6A	1.0A	DM2A

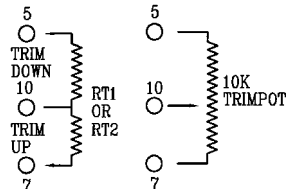
Symbols: "★" OVP built-in. "@" Adjustable. "||" Double Feedback. "†" Stacked on main O/P.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 156.0g (5.6 Oz.)



CASE SIZE: DM2A



PIN ASSIGNMENT

PIN NO.	TRIPLE
PIN# 1.	Remote ON/OFF
PIN# 2.	+INPUT
PIN# 3.	- INPUT/-Vin
PIN# 4.	NO PIN
PIN# 5.	+VO2
PIN# 6.	DC-COM
PIN# 7.	-VO3
PIN# 8.	+ VO1
PIN# 9.	NO PIN
PIN# 10.	OUTPUT TRIM

DERATING CHART

