H HiTRON

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 ±2.0% typical.
Line Regulation: Various with input & output voltages.
±0.5% typical.
Load Regulation: Various with output voltages.
±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.

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

INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

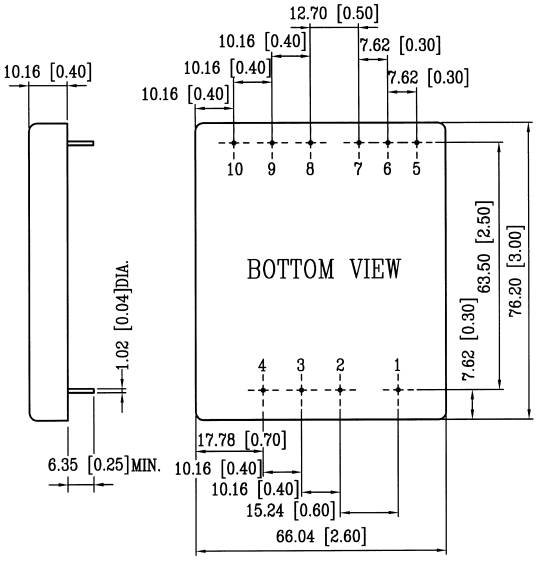
SINGLE OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT 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

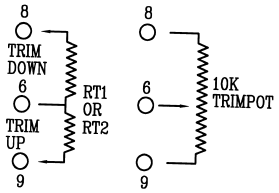
Symbols: "★" OVP built-in. "@" Adjustable.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 156.0g (5.6 Oz.)



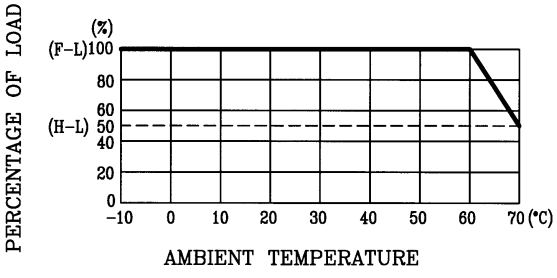
CASE SIZE: DM2A



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



H HiTRON

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 ±2.0% typical.
Line Regulation: Various with input voltages.
±0.5% typical.
Load Regulation: Various with output voltages.
VO1 ±1.0% typical.
VO2 ±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 ±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: ± 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

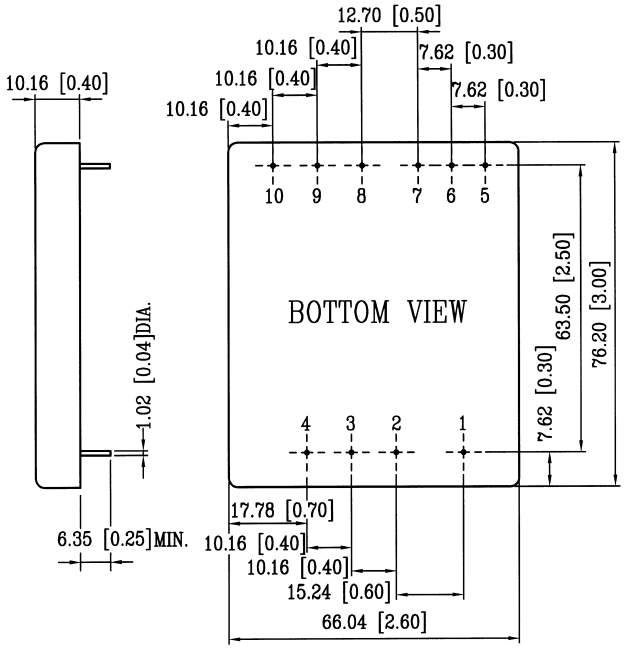
DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT N.L. (mA)	F.L.	OUTPUT (Vdc) +VO1@★	-VO2 ‖	OUTPUT (A) +VO1	-VO2	CASE SIZE
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

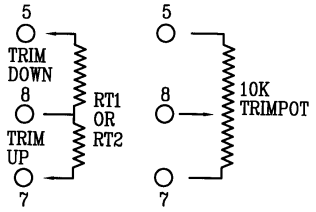
Symbols: "★" OVP built-in. "@" Adjustable. " ‖ " Double Feedback.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 156.0g (5.6 Oz.)



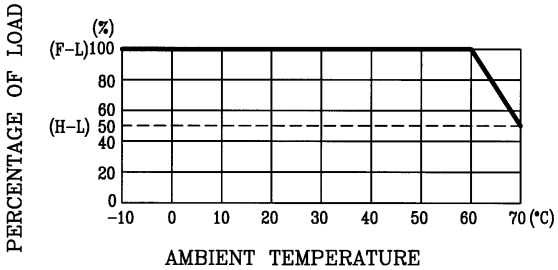
CASE SIZE: DM2A



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



H HiTRON

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 ±2.0% typical.
Line Regulation: Various with input voltages. ±0.5% typ.
Load Regulation: Various with output voltages.
VO1 & VO3 ±2.0% typical.
VO2 ±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 ±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: ± 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

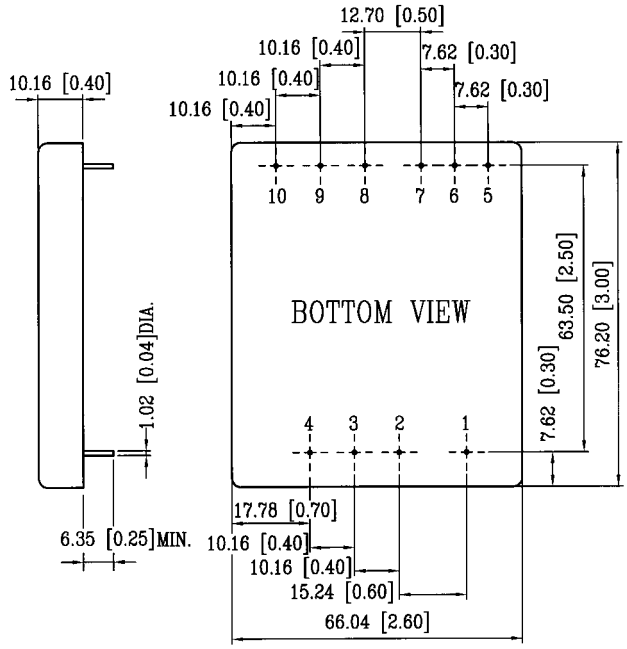
TRIPLE OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT N.L. (mA)	F.L.	OUTPUT (Vdc) +VO1★@	+VO2†	-VO3 ‖	OUTPUT (A) +VO1	+VO2	-VO3	CASE SIZE
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

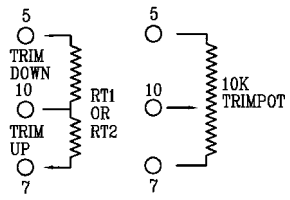
Symbols: "★" OVP built-in. "@" Adjustable. " ‖ " Double Feedback. "†" Stacked on main O/P.

MECHANICAL DIMENSIONS: MM [INCHES]

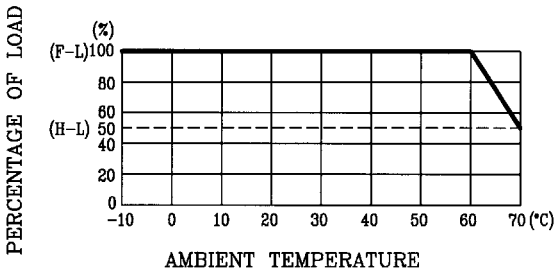
WEIGHT: 156.0g (5.6 Oz.)



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