



MDS9BW / MDD9BW

30 WATT 4:1 INPUT DC-DC CONVERTERS

Feature

- * 30W Isolated Output
- * Efficiency to 92%
- * 2" X 1" Six-Sided Shield Metal Case
- * 4:1 INPUT RANGE
- * Remote ON/OFF
- * Without Tantalum Capacitors inside
- * Regulated Outputs
- * Fixed Switching Frequency
- * Input under-voltage Protection
- * Over Current Protection
- * Continuous Short Circuit Protection

Model Number	Input Voltage	Output Voltage	Output Current (max.)	Input Current		%EFF.	CAPACITIVE LOAD MAX.
				No Load	Full Load		
MDS9BW2433	9-36 VDC	3.3 VDC	7500 mA	100 mA	1172 mA	88.5	7500 μ F
MDS9BW2405	9-36 VDC	5 VDC	6000 mA	110 mA	1397 mA	89.5	6000 μ F
MDS9BW2412	9-36 VDC	12 VDC	2500 mA	30 mA	1374 mA	90.5	2500 μ F
MDS9BW2415	9-36 VDC	15 VDC	2000 mA	30 mA	1374 mA	91	2000 μ F
MDD9BW2412	9-36 VDC	\pm 12 VDC	\pm 1250mA	30 mA	1374 mA	90	1250 μ F
MDD9BW2415	9-36 VDC	\pm 15 VDC	\pm 1000mA	35 mA	1359 mA	90	1000 μ F
MDS9BW4833	18-75 VDC	3.3 VDC	7500 mA	35 mA	593 mA	88	7500 μ F
MDS9BW4805	18-75 VDC	5 VDC	6000 mA	50 mA	694 mA	90	6000 μ F
MDS9BW4812	18-75 VDC	12 VDC	2500 mA	20 mA	683 mA	90	2500 μ F
MDS9BW4815	18-75 VDC	15VDC	2000 mA	20 mA	679 mA	90.5	2000 μ F
MDD9BW4812	18-75 VDC	\pm 12 VDC	\pm 1250mA	20 mA	683 mA	90.5	1250 μ F
MDD9BW4815	18-75 VDC	\pm 15 VDC	\pm 1000mA	20 mA	679 mA	90	1000 μ F

*Note: Nominal Input Voltage 12, 24 or 48 VDC



All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

INPUT SPECIFICATIONS:

Input Voltage Range	24V	9 – 36V
	48V	18 – 75V
Input Surge Voltage (100ms max.)	24V	50Vdc max
	48V	100Vdc max
Under voltage lockout	24Vin power up	8.8V typ.
	24Vin power down	8.0V typ.
	48Vin power up	17V typ.
	48Vin power down	16V typ.
Input Filter		PI Type
Positive Logic Remote on/off Control:	(see note 3 & 4)	

OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1% max.
Voltage Balance(Dual)	±1% max.
Transient Response: 75% ~ 100% Step Load Change.	
Error Band	±5% Vout nominal, Recovery Time < 250us
Ripple & Noise, 20MHz BW (Measured with 0.1uF MLCC)	
Vo=3.3 & 5V	75mV p-p max.
Vo=12V & 15V & ±12V & ±15V	100mV p-p max
Temperature Coefficient	±0.02%/C max.
Line Regulation(Note1),	±0.2% max.
Dual	±0.2% max
Load Regulation(Note2),	±0.2% max.
Dual	±0.5% max
Cross Regulation(Dual output) Load cross variation 10%/100%	±5% max
Over Voltage Protection	Zener or TVS Clamp
Current Limit	110% - 160% Nominal Output
Output Short Circuit Protection	Continuous (Hiccup Mode)
External Trim Adj. Range (single output models only)	±10%
Start up time	10ms typ

GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	1500 VDC min.
Isolation Resistance	10 ⁹ Ohms min.
Isolation Capacitance	1000pF Typ
Switching Frequency	430KHz typ.
EMI/RFI	Conductive EMI Mee EN55022 Class A (Note6)
Operating Ambient Temperature Range	-40°C to +75°C
Derating, Above 65°C	Linearly to Zero Power at +105°C
Case Temperature (note 5)	105°C
Cooling	Natural Convection
Storage Temperature Range	-55°C to +125°C
Thermal Shutdown, Case Temp.	110°C Typ.
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F
Dimensions	2 x 1 x 0.4 inches (50.8 x 25.4 x 10.2 mm)
Case Material	Black Coated Copper with Non-Conductive Base
Weight	35g

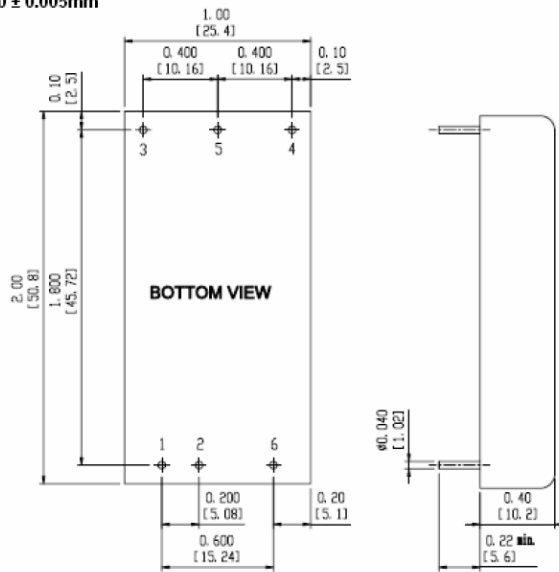
NOTE :

1. Measured From High Line to Low Line
2. Measured From Full Load to min. Load
3. Logic Compatibility CMOS or Open Collector TTL, ref. to -Vin
 Module ON >3.5Vdc to 75Vdc or Open Circuit
 Module OFF <1.2Vdc
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF
 Module ON <1.2Vdc,
 Module OFF >3.5Vdc to 75Vdc or Open Circuit
5. Maximum case temperature under any operating condition should Not be exceeded 105°C.
6. Meet EN55022 Class A with external capacitor.(see application note)

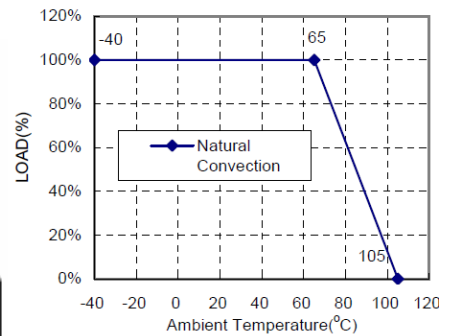
SIZE B Dimensions:

CASE B

All Dimensions in Inches (mm)
 Tolerance Inches X.XX= ±0.02 , X.XXX= ±0.010
 Millimeters X.X= ±0.5 , X.XX= ±0.25
 Pin Diameter: 1.0 ± 0.005mm



Typical Derating curve for Natural Convection



PIN CONNECTION		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	-Vout
5	-Vout	Common
6	Remote ON/OFF	

*Note: Pin Size is 0.020" Inch (0.5m/m) DIA or 0.020" x 0.14 Inch; All Dimensions are shows In Inches (m/m)
 Tolerance .xx=±.02, xxx=±.010

Non-Updated Document