MICRODC
Professional Power Module

WRB-YMD-20W Series

WIDE INPUT,ISOLATED & REGULATED Single Output DC/DC Converter



SELECTION GUIDE

order	Watt	Input Voltage	Output Voltage	Output Current Full Load	Efficiency	Capacitor Load
	(Output)	(VDC)	(VDC)	(mA)	(%)	(uF)
WRB1203YMD-4500	14.85	9-18	3.3	4500	85	2000
WRB1205YMD-20W	20	9-18	5	4000	89	2000
WRB1212YMD-20W	20	9-18	12	1660	88	470
WRB1215YMD-20W	20	9-18	15	1330	88	330
WRB2403YMD-4500	14.85	18-36	3.3	4500	86	2000
WRB2405YMD-20W	20	18-36	5	4000	89	2000
WRB2412YMD-20W	20	18-36	12	1660	89	470
WRB2415YMD-20W	20	18-36	15	1330	89	330
WRB4803YMD-4500	14.85	36-72	3.3	4500	84	2000
WRB4805YMD-20W	20	36-72	5	4000	88	2000
WRB4812YMD-20W	20	36-72	12	1660	89	470
WRB4815YMD-20W	20	36-72	15	1330	89	330

*Input voltage can't exceed this value,or will cause the permanent damage.

FEATURES

- ◆RoHS compliant
- ◆Efficiency up to 86%
- ◆1"X1" DIP Package
- ◆Wide temperature performance at full 20 Watt load,-40°C to 85°C
- ◆UL 94V-0 package material
- ◆No heat sink required
- ◆ Low ripple and good EMC Features
- ◆ Industry standard pinout
- ◆ Regulated Single Output
- ◆ 1500 VDC I/O Isolation
- ◆ Short Circuit Protection(automatic recovery)
- ◆ Metal case package
- ◆ MTBF>1000000 hours

MODEL SELECTION

WRB①24②05③Y④ MD⑤-20W(4000)⑥

①Product Series ②Input Voltage
③Output Voltage ④Wide (2:1) Input Range
⑤package style
⑥Rated Power(Output current)

DESCRIPTION

The WRB_YMD-20W series are specially designed for applications where a wide range input voltage power supplies are isolated from the input power supply in a distributed power supply system on a circuit board. These products apply to:

1) Where the voltage of the input power supply is wide range (voltage range≤2:1);

2) Where isolation is necessary between input and output(isolation voltage≤1500VDC);

3) Where the regulation of the output voltage and the output ripple noise are demanded.

Input Specifications	
Voltage Range	2:1 Wide Input (See Table)
Input Filter	L-C Type
Output Specifications	
Voltage Accuracy	± 2 %
Short Circuit Protection	Current Limit (Automatic Recovery)
Over Power Protection	Over 120% of Rating (Automatic Recovery)
Over Voltage Protection	Zener Diode Clamp
Line Regulation (LL-HL)	± 0.5 %, typ.
Load Regulation (10% - 100%)	± 1 %, typ.
Ripple	75 - 100 mV pk-pk, max.
Noise	100 - 125 mV, max.
Temperature Coefficient	± 0.02% / ° C, max.
General Specifications	
Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1500 VDC
I/O Isolation Resistance	10^8Ohms
Switching Frequency	300 - 450 kHz, typ.
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 0.8 MHrs
Physical Specifications	
Case Material	Six-side shielded Alu (non conductive Base)
Weight	~ 15 g, typ.
Environment Specifications	
Operating Temperature	-40 to +50° C (for 100% - See Derating Graph)
Maximum Case Temperature	105℃
Storage Temperature	-55 to +105℃
Cooling	Free Air Convection (10mm distance required)
RoHS Conform	Soldering 260° C, max. (1.5mm from case 10s.)

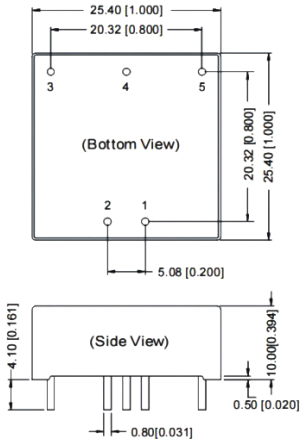
RoHS MICRODC Green Technology

CE REACH

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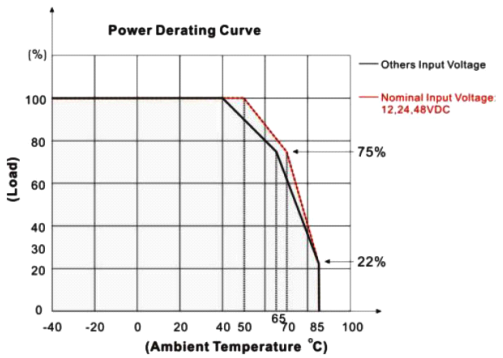
Package / Pinning / Derating

MECHANICAL DIMENSIONS



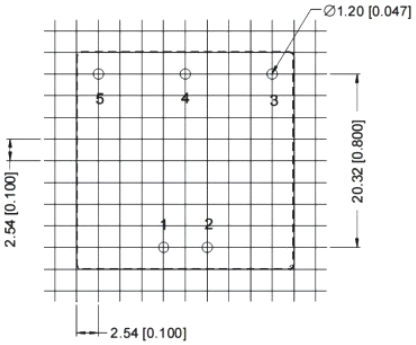
Note:
Unit:mm[inch]
Pin section tolerances:±0.10mm[±0.004inch]
General tolerances:±0.25mm[±0.010inch]

Temperature derating curve



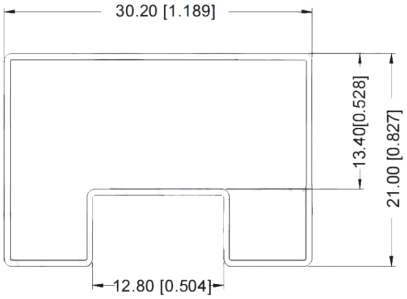
RECOMMENDED FOOTPRINT

Single Output



RECOMMENDED FOOTPRINT
Top view,grid:2.54mm(0.1inch)
diameter:1.00mm(0.039inch)

TUBE OUTLINE DIMENSIONS



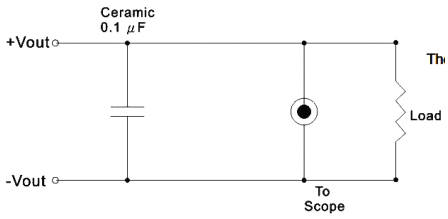
Note:
Unit :mm[inch]
General tolerances: ±0.50mm[±0.020inch]
L=530mm[20.866inch] Tube Quantity: 19pcs
L=220mm[8.661inch] Tube Quantity: 7pcs

When the environment temperature is higher than 71°C, the product output ower should be less then 60% of the rated power.

No parallel connection or plug and play.

Use dual output simultaneously, forbid opening output pin (0V) to use as single output.

Output Noise:



The output noise is measured with 0.1μF tantalum capacitor.

PIN CONNECTION

#	SINGLE
1	GND
2	+ Vin
3	+Vout
4	NC
5	0V

MICRODC
Professional Power Module

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RoHS COMPLIANT INFORMATION

This series is compatible with RoHS soldering systems with a peak wave solder temperature of 300° C for 10 seconds.
The pin termination finish on the SIP package type is Tin Plate, Hot Dipped over Matte Tin with Nickel Preplate. The DIP types are Matte Tin over Nickel Preplate. Both types in this series are backward compatible with Sn/Pb soldering systems.

REACH COMPLIANT INFORMATION

This series has proven that this product does not contain harmful chemicals, it also has harmful chemical substances through the registration, inspection and approval.