



FEATURES

- ◆ RoHS compliant
- ◆ Efficiency up to 86%
- ◆ 1"X1" DIP Package
- ◆ Wide temperature performance at full 5 Watt load, -40°C to 85°C
- ◆ UL 94V-0 package material
- ◆ No heatsink required
- ◆ Low ripple and good EMC Features
- ◆ Industry standard pinout
- ◆ Power sharing on output
- ◆ I/O Isolation 1500VDC
- ◆ Short Circuit Protection (automatic recovery)
- ◆ Metal case package
- ◆ MTBF > 1000000 hours

MODEL SELECTION

WRB^①24^②05^③Y^④M^⑤D^⑥-5W(1000)^⑦

- ① Product Series
- ② Input Voltage
- ③ Output Voltage
- ④ Wide (2:1) Input Range
- ⑤ Metal Shield
- ⑥ 1"X1" DIP Package
- ⑦ Rated Power (Output current)

DESCRIPTION

The WRA_YMD-5W & WRB_YMD-5W series are specially designed for applications where a group of polar 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 $\leq 2:1$);
- 2) where isolation is necessary between input and output (isolation voltage $\leq 1500\text{VDC}$);
- 3) where the regulation of the output voltage and the output ripple noise are demanded.

SELECTION GUIDE

order code	Input Voltage(VDC)	Output Voltage(VDC)	Output Current(mA)
WRB0503YMD-1200	4.5 - 9	3.3	1200
WRB0505YMD-5W	4.5 - 9	5	1000
WRB0512YMD-5W	4.5 - 9	12	420
WRB0515YMD-5W	4.5 - 9	15	330
WRB0524YMD-5W	4.5 - 9	24	210
WRB1203YMD-1200	9 - 18	3.3	1200
WRB1205YMD-5W	9 - 18	5	1000
WRB1212YMD-5W	9 - 18	12	420
WRB1215YMD-5W	9 - 18	15	330
WRB1224YMD-5W	9 - 18	24	210
WRB2403YMD-1200	18 - 36	3.3	1200
WRB2405YMD-5W	18 - 36	5	1000
WRB2412YMD-5W	18 - 36	12	420
WRB2415YMD-5W	18 - 36	15	330
WRB2424YMD-5W	18 - 36	24	210
WRB4803YMD-1200	36 - 72	3.3	1200
WRB4805YMD-5W	36 - 72	5	1000
WRB4812YMD-5W	36 - 72	12	420
WRB4815YMD-5W	36 - 72	15	330
WRB4824YMD-5W	36 - 72	24	210
WRA0505YMD-5W	4.5 - 9	+5	+500
WRA0512YMD-5W	4.5 - 9	+12	+200
WRA0515YMD-5W	4.5 - 9	+15	+160
WRA1205YMD-5W	9 - 18	+5	+500
WRA1212YMD-5W	9 - 18	+12	+200
WRA1215YMD-5W	9 - 18	+15	+160
WRA2405YMD-5W	18 - 36	+5	+500
WRA2412YMD-5W	18 - 36	+12	+200
WRA2415YMD-5W	18 - 36	+15	+160
WRA4805YMD-5W	36 - 72	+5	+500
WRA4812YMD-5W	36 - 72	+12	+200
WRA4815YMD-5W	36 - 72	+15	+160

Input	Min	Nom	Max	Notes
Input Voltage	4.5	6	9	
	9	12	18	
	18	24	36	
	36	48	72	
Output	Min	Nom	Max	Notes
Setpoint Accuracy			$\pm 1\%$	Vo1
			$\pm 3\%$	Vo2
Line Regulation			$\pm 0.2\%$	
Load Regulation			$\pm 0.5\%$	
Dynamic Response			3%Vo Pk deviation	50~75% load
			200 settling time	50~25% load
Ripple and Noise			50mVp-p	Vo 5Vdc
			100mVp-p	Other
Temperature coefficient		$\pm 0.02\%/^{\circ}\text{C}$		
General	Min	Nom	Max	Notes
Isolation Voltage	500Vdc			Input-Output
				Input-Case
				Output-Case
Switching Frequency		300KHZ		
Efficiency		82%		typ
MTBF		10X10 ⁵ h		Bellcore ,25°C
Case Temperature	-25°C		+85°C	
	-43°C		+105°C	Military
Storage Temperature	-40°C		+125°C	
Relative Humidity	10%		90%	

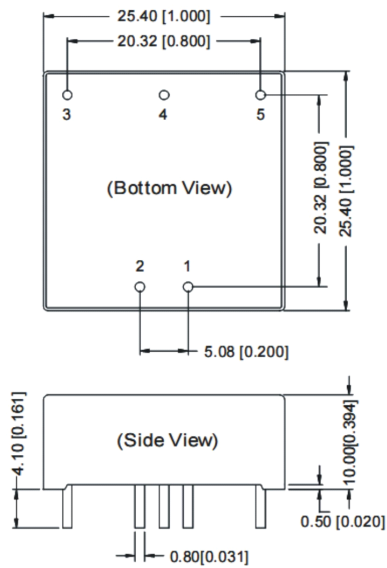
*Input voltage can't exceed this value or will cause the permanent damage.



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OUTLINE DIMENSIONS & FOOTPRINT DETAILS

MECHANICAL DIMENSIONS



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

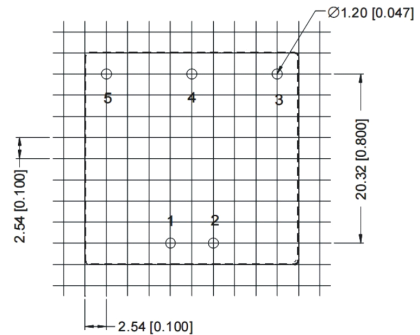
FOOTPRINT DETAILS

Pin	Single	Dual
1	GND	GND
2	V _{in}	V _{in}
3	+V ₀	+V ₀
4	NC	0V
5	0V	-V ₀

NC:No connection

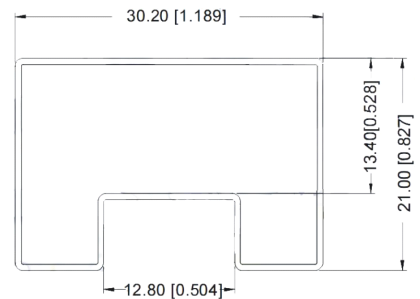
RECOMMENDED FOOTPRINT

Dual/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 power should be less than 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.

Note:

- The load shouldn't be less than 10%, otherwise ripple will increase dramatically.
- Operation under 10% load will not damage the converter; However, they may not meet all specification listed.
- All specifications measured at T_a=25° C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- In this data sheet, all the test methods of indications are based on corporate standards.
- Only typical models listed, other models may be different, please contact our technical person for more details.

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.