



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 ≤ 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.



CE REACH
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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 |

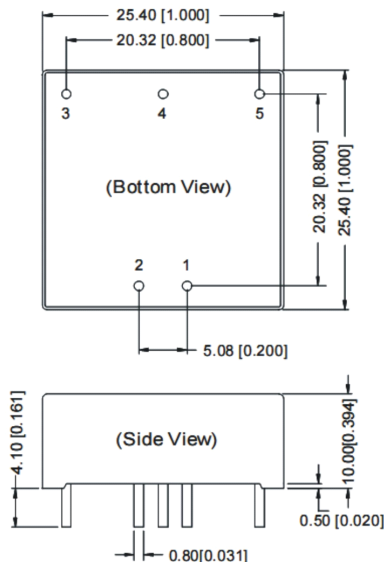
*Input voltage can't exceed this value, or will cause the permanent damage.

| 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 | | | ±1% | Vo1 |
| | | | ±3% | Vo2 |
| Line Regulation | | | ±0.2% | |
| Load Regulation | | | ±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 | | ±0.02%/°C | | |
| General | Min | Nom | Max | Notes |
| Isolation Voltage | 500Vdc | | | Input-Output |
| | | | | Input-Case |
| | | | | Output-Case |
| Switching Frequency | | 300KHZ | | |
| Efficiency | | 82% | | typ |
| MTBF | | 10X10 ⁶ 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.

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

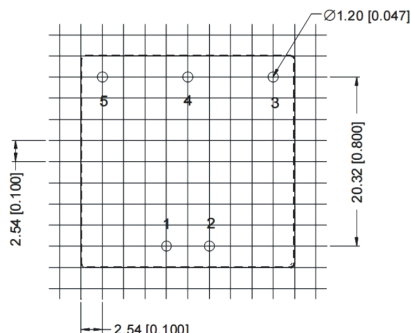
| Pin | Single | Dual |
|-----|--------|------|
| 1 | GND | GND |
| 2 | Vin | Vin |
| 3 | +V0 | +V0 |
| 4 | NC | 0V |
| 5 | 0V | -V0 |

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 Ta=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.

RECOMMENDED FOOTPRINT

Dual/Single Output

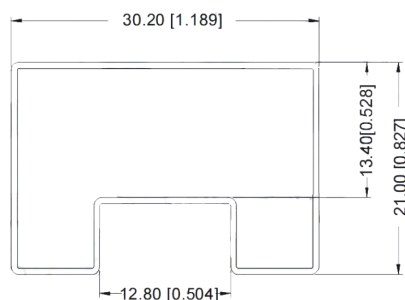


RECOMMENDED FOOTPRINT

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 over 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.