



## VRB\_MP-8W Series

### WIDE INPUT 1500VDC ISOLATED & REGULATED 8W SINGLE OUTPUT DIP PACKAGE

multi-country patent protection **RoHS**

#### FEATURES

- Wide (2:1) Input Range
- Operating Temperature: -40°C~+85°C
- 1.5KVDC Input/Output Isolation
- Metal Shielding Package
- DIP package
- No Heat Sink Required
- Industry Standard Pin out
- MTBF>1,000,000 hours
- RoHS Compliance

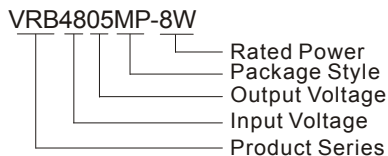
#### Application

The VRB\_MP-8W Series is 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 range is wide (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.

#### MODEL SELECTION



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#### PRODUCT PROGRAM

Part Number	Input			Output			Efficiency (% Typ)
	Voltage (VDC)			Voltage (VDC)	Current(A)		
	Nominal	Range	Max*		max	min	
VRB1203MP-8W	12	9-18	20	3.3	2000	200	78
VRB1205MP-8W				5	1500	150	81
VRB1212MP-8W				12	667	67	86
VRB1215MP-8W*				15	533	54	84
VRB1224MP-8W				24	334	34	85
VRB2405MP-8W	24	18-36	40	5	1500	150	81
VRB2412MP-8W				12	667	67	85
VRB2415MP-8W				15	533	54	84
VRB2424MP-8W				24	334	34	84
VRB4805MP-8W	48	36-75	80	5	1500	150	84
VRB4812MP-8W				12	667	67	84
VRB4815MP-8W*				15	533	54	84
VRB4824MP-8W				24	334	34	85

\*Input voltage above it may cause permanent damage to the device.

Note: only typical models listed. If you need other model, please confirm the power, input voltage and output voltage .then phone us.

#### COMMON SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Operating Temperature		-40		85	°C
Storage Temperature		-55		125	
Storage Humidity				95	%
Lead Temperature	1.5mm from case for 10 seconds			300	°C
Temperature Rise at Full Load			40		
MTBF		100			Khours
Cooling		Free Air Convection			
CTRL(Reference point: GND)	On	3.5-12VDC or open circuit			
	Off	0-1.2VDC or short circuit Pin1 and Pin2/pin3			
Output Short Circuit Protection		Continuous, Automatic Recovery			
Case Material		Copper, Nickel Plated			

#### ISOLATION SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Isolation voltage	Flash tested for 60 seconds	1500			VDC
Isolation resistance	Test at 500VDC	500			MΩ

## OUTPUT SPECIFICATIONS

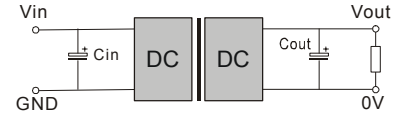
Item	Test conditions	Min	Typ	Max	Units
Output power	See above products program			8	W
Output voltage accuracy	Refer to recommended circuit		±1	±3	%
Load regulation	From 10% to 100% load		±0.5	±1	
Line regulation (at full load)	Input voltage from low to high		±0.2	±0.5	
Temperature drift (Vout)	Refer to recommended circuit		0.02		%/°C
Ripple & Noise	20MHz bandwidth		1%Vo		mVp-p
Switching frequency	100% load, nominal input voltage		300		KHz

Note:  
 1.All specifications measured at  $T_A=25^{\circ}\text{C}$ , humidity<75%, nominal input voltage and rated output load unless otherwise specified.  
 2.See below recommended circuits for more details.

## APPLICATION NOTE

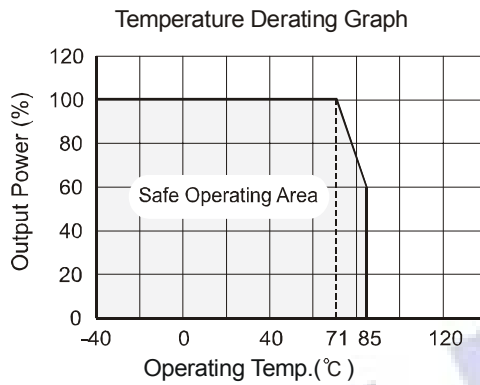
### Recommended Circuit

All DC/DC converters have been tested according to the following recommended testing circuit before delivery. This series should be tested under load. Never test under no load (Figure1).



(Figure 1)

## TYPICAL CHARACTERISTICS



### External Capacitor

In order to assure the best performance, it's suggested to connect an external capacitor of about 150uF

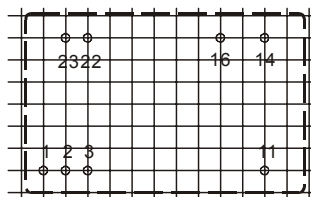
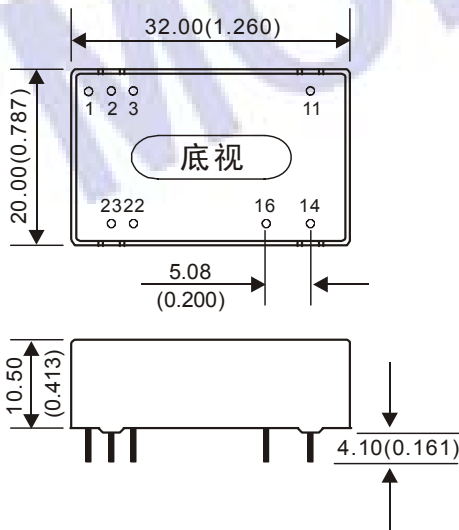
The products cannot be used in parallel and in hot plug.

## OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT

First Angle Projection

### RECOMMENDED FOOTPRINT

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



### FOOTPRINT DETAILS

Pin	Single
1	CTRL
2, 3	GND
11	NC
14	+Vo
16	0V
22, 23	Vi n

NC: No Connection

Note:  
 Unit: mm(inch)  
 Pin section: 0.50mm(0.020inch)  
 Pin tolerances: ±0.05mm(±0.002inch)  
 General tolerances: ±0.25mm(±0.010inch)