

WRE_P-2W Series

WIDE INPUT HIGH ISOLATED & REGULATED 2W DUAL OUTPUT DIP PACKAGE



FEATURES

- Wide (2:1) Input Range
- Operating Temperature: -40°C~+85°C
- 3 KVDC Isolation
- UL94-V0 Package
- No Heat Sink Required
- Industry Standard Pin out
- MTBF>1,000,000 hours
- RoHS Compliance

PRODUCT PROGRAM

Part Number	Input			Output			Efficiency (% Typ)
	Voltage (VDC)			Voltage (VDC)	Current (mA)		
	Nominal	Range	Max*		Max	Min	
WRE0505P-2W	5	4.5-9	11	±5	±200	±20	70
WRE2412P-2W	24	18-36	40	±12	±83	±8	84

Note: 1. Models listed with strike-through text have been officially discontinued.
2. *Input voltage can't exceed this value, or will cause the permanent damage.

APPLICATIONS

The WRE_P-2W 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 $\leq 3000\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are demanded.

ISOLATION SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Isolation voltage	Flash tested for 60 seconds	3000			VDC
Isolation resistance	Test at 500VDC	1000			MΩ

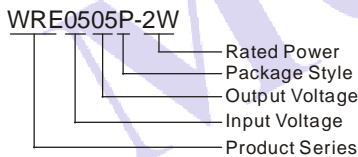
OUTPUT SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
2W output power	See below products program	0.2		2	W
Voltage accuracy	Refer to recommended circuit		±1	±3	%
Load regulation	From 10% to 100% load		±0.5	±1	
Line regulation	Input Voltage From Low to High		±0.2	±0.5	
Temperature drift(Vout)	Refer to recommended circuit			±0.03	%/°C
Ripple	20MHz bandwidth		30	50	mVp-p
Noise	20MHz bandwidth		50	150	
Switching frequency	100% load, nominal input voltage	80-550(PFM)			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.

MODEL SELECTION



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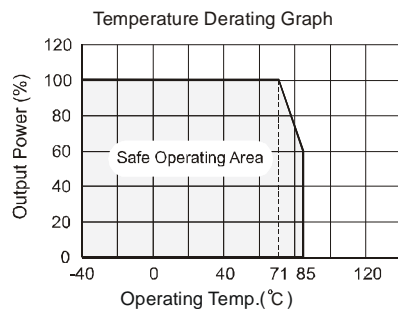
[Http://www.mornsun-power.com](http://www.mornsun-power.com)

COMMON SPECIFICATION

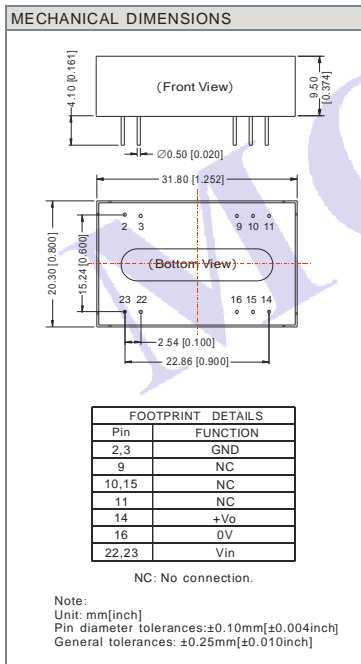
Output Short Circuit Protection	Continuous, Automatic Recovery
Temperature Rise at Full Load	15°C (typ) 35°C(max)
Cooling	Free Air Convection
No-load Power Consumption	200mW (typical)
Operating Temperature Range	-40°C~+85°C
Storage Temperature Range	-50°C~+125°C
Lead Temperature*	300°C (1.5mm from case for 10 seconds)
Storage Humidity Range	≤ 95%
Case Material	Plastic (UL94-V0)
MTBF	>1,000,000 hours

*Lead Temperature 1.5mm from case for 10 seconds.

TYPICAL CHARACTERISTICS



OUTLINE DIMENSIONS & FOOTPRINT DETAILS



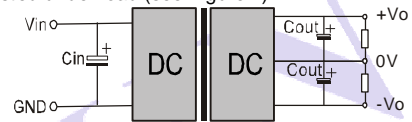
APPLICATION NOTE

Requirement on Output Load

To ensure this module operate efficiently and reliably, a minimum load is specified for this kind of DC/DC converter in addition to a maximum load (namely full load). During operation, make sure the specified range of input voltage is not exceeded, the minimum output load is not less than 10%. If the actual load is less below the specified minimum load, the output ripple of this type of DC/DC converter may increase drastically. If the actual output power from the load in your circuit is very small, please connect a resistor with proper resistance at the output end to in parallel to increase the load, or use our company's other products with a lower rated output power.

Recommended Circuit

All the WRE_P-2W Series have been tested according to the following recommended testing circuit before leaving factory. This series should be tested under load. (see Figure 1).



(Figure 1)

If you want to further decrease the input/output ripple, you can increase capacitance properly or choose capacitors with low ESR. However, the capacitance should not be too high.

External Capacitor

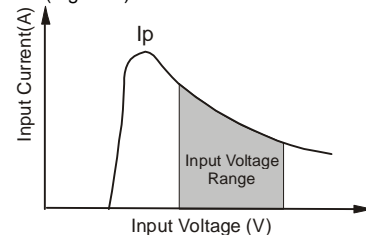
Although this series of DC/DC converter can work without external capacitor, in order to keep an optimum performance, however, it needs external capacitor. (Table 1)

External Capacitor Table (Table 1)

Vin	Cin	Cout
5V&12V	100uF	100uF (electrolytic capacitor)
24V&48V	10uF	

Input Current

When it is used in unregulated power supply, be sure that the fluctuating range of the power supply and the rippled voltage do not exceed the module standard. Input current of power supply should afford the startup current of this kind of DC/DC module. (Figure 2)



(Figure 2)

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