Professional Power Module

WRE-YS-2W&WRF-YS-2W

2W, WIDE INPUT,ISOLATED&REGULATED DUAL/SINGLE OUTPUT DC-DC CONVERTER

FEATURES

- 2 Watt
- Efficiency up to 82%
- 2:1 wide input voltage range
- Operating temperature: -40 to +85
- Reg. Single and Dual Output
- I/O Isolation 3000VDC
- SIP8 package
- On/Off Control (optional)
- Continue Short Circuit Protection
- RoHS Compliance

MODEL SELECTION

WRE 24 05 Y S -2W(200)

Product Series Input Voltage
Output Voltage 2:1Wide Input Volage Range
SIP8 Package
Rated Power(Output current)

APPLICATIONS

The WRE-YS-2W & WRF-YS-2W series is a family of cost effective 2W dual and single output DC/DC converters with an optional control Pin(SIP8). These converters are encapsulated in an ultra miniature SIP8 plastic case. 3000VDC I/O isolation performance features :continuous long time short circuit protection with automatic restart and tight line / load regulation, high efficiency operation and output voltage accuracy of ± 2% maximum.

RoHS MICRODC Green Technology

CE REACH

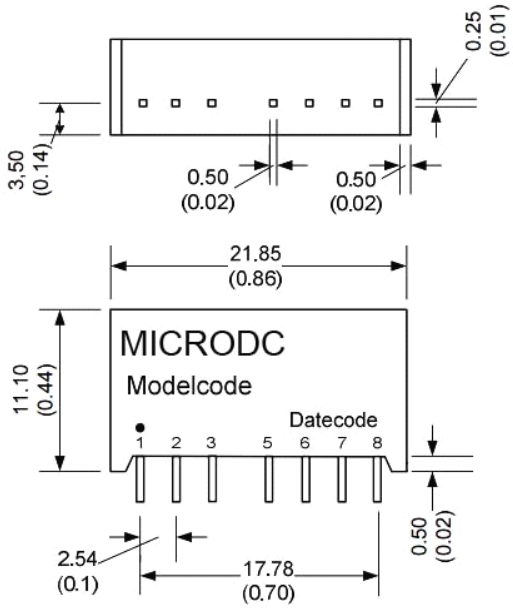
Input Specifications	
Voltage Range	2:1 Wide Input (see table)
Input Filter	Capacitor
Input Reflected Ripple Current[1]	35 mA pk-pk
Output Specifications	
Voltage Accuracy	± 2%
Short Circuit Protection	Indefinite (Automatic Recovery)
Line Regulation	± 0.5%
Load Regulation (25% - 100%)	± 1%
Ripple and Noise (20Mhz bandwidth)	80 mV pk-pk
Temperature Coefficient	± 0.02% / °C
General Specifications	
I/O Isolation Voltage (3 sec.)	3000 VDC
I/O Isolation Capacity	60 pF
I/O Isolation Resistance	1000 M Ohm
Switching Frequency	100 - 650 kHz
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 2.732 Mhrs
Physical Specifications	
Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Or (Potting Material)	Epoxy (UL94V-0 rated)
Weight	~ 4.5g, typ.
Environment Specifications	
Operating Temperature	-40 to +85°C (ambient)
Maximum Case Temperature	100°C
Storage Temperature	-40 to +125°C
Cooling	Free Air Convection
RoHS Conform	Soldering 260°C, max. (1.5mm from case 10s.)

NOTE:All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

SELECTION GUIDE

Model Number	Input Range* VDC	Input Current No Load (mA)	Input Current Full Load (mA)	Output Current VDC	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF)[2]
WRF0303YS-500	4.5-9	15	492	3.3	125	500	71	3300
WRF0503YS-500	4.5-9	15	492	3.3	125	500	67	3300
WRF0505YS-2W	4.5-9	15	571	5	100	400	70	3300
WRF0509YS-2W	4.5-9	30	555	9	56	222	72	470
WRF0512YS-2W	4.5-9	30	555	12	42	167	72	470
WRF0515YS-2W	4.5-9	30	547	15	33	133	73	470
WRF0524YS-2W	4.5-9	60	533	24	21	83	75	220
WRF1203YS-500	9-18	15	205	3.3	125	500	67	3300
WRF1205YS-2W	9-18	15	216	5	100	400	77	3300
WRF1209YS-2W	9-18	15	213	9	56	222	78	470
WRF1212YS-2W	9-18	15	208	12	42	167	80	470
WRF1215YS-2W	9-18	15	213	15	33	133	78	470
WRF1224YS-2W	9-18	15	208	24	21	83	80	220
WRF2403YS-500	18-36	8	98	3.3	125	500	70	3300
WRF2405YS-2W	18-36	8	108	5	100	400	77	3300
WRF2409YS-2W	18-36	8	104	9	56	222	80	470
WRF2412YS-2W	18-36	8	104	12	42	167	80	470
WRF2415YS-2W	18-36	8	104	15	33	133	80	470
WRF2424YS-2W	18-36	8	104	24	21	83	80	220
WRF4803YS-500	36-72	6	48	3.3	125	500	71	3300
WRF4805YS-2W	36-72	6	56	5	100	400	74	3300
WRF4809YS-2W	36-72	6	53	9	56	222	78	470
WRF4812YS-2W	36-72	6	53	12	42	167	78	470
WRF4815YS-2W	36-72	6	53	15	33	133	78	470
WRF4824YS-2W		6	52	24	21	83	80	220
WRE0303YS-250	4.5-9	20	471	3.3	63	250	71	1000
WRE0503YS-250	4.5-9	20	471	3.3	63	250	70	1000
WRE0505YS-2W	4.5-9	20	571	5	50	200	70	1000
WRE0509YS-2W	4.5-9	20	540	9	28	111	74	220
WRE0512YS-2W	4.5-9	25	533	12	21	83	75	220
WRE0515YS-2W	4.5-9	25	533	15	17	67	75	220
WRE0524YS-2W	4.5-9	60	563	24	10	42	71	100
WRE1503YS-250	9-18	15	188	3.3	63	250	73	1000
WRE1205YS-2W	9-18	15	222	5	50	200	75	1000
WRE1209YS-2W	9-18	15	210	9	28	111	79	220
WRE1212YS-2W	9-18	15	208	12	21	83	80	220
	9-18	15	210	15				

DERATING GRAPH



All dimensions are typical in millimeters (inches).
- Pin diameter: 1.0 +/-0.05 (0.04 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Specification may change without notice.

SIP8 – PLASTIC CASE

MECHANICAL DIMENSIONS

PIN CONNECTIONS

#	SINGLE	DUAL
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	N.C.	N.C.
6	+Vout	+Vout
7	- Vout	- Vout
8	N.C.	Common

N.C.=No Connect

MCU (Master Control Unit)
The MCU Pin Voltage is referenced to –Vin (Pin1)
ON: 0 – 0.8 VDC / open / short circuit Pin1 and Pin3
OFF: 5 VDC
OFF idle current: 5mA, typ.

App Notes:

[1] = Measured Input reflected ripple current with a simulated source inductance of 12uH

[2] = Tested by nominal Vin and constant resistive load.

- Operation under no-load conditions will not damage these devices, but they will not observe the listed specifications.

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.