



**COIL TECHNOLOGY
CORPORATION**

**1W & 2W Wide Input Range
DC/DC CONVERTERS**

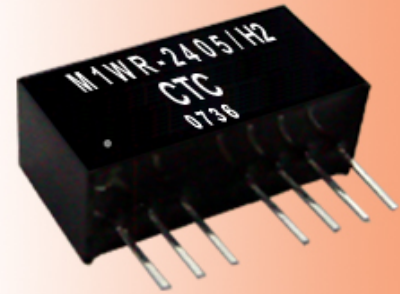
Features

**8 Pin SIP Package
2:1 Wide Range Input
Nominal 5V, 12V, 24V and 48V input
Single and dual outputs
Regulated Output
1kV isolation, 2kV & 3kV options
-40 to +85 operating temp
CE EN60950-1 certified**

Series	Description	Page
M1WR	1W	2
M2WR	2W	5

Feature :

- 2:1 Wide Range Voltage Input
- 1 ~ 3KVdc Isolation
- Efficiency up to 81%
- UL 94V-0 Package Material
- Excellent Load and Line Regulation
- Single & Dual Output
- Continuous Short Circuit Protection
- No External capacitor Needed
- External ON/OFF control
- RoHS DIRECTIVE COMPLIANT
- Meet CE EN-60950-1 Certified



Note: 1.Add/H2 after P/N for isolation 2KVdc

2.Add/H3 after P/N for isolation 3KVdc

Selection Guide

Part Number	Input Voltage Range	Output Voltage	Output current Max.	Efficiency	Capacitive Load Max.
M1WR-053.3/D	4.5 ~ 9 VDC (5 VDC nominal)	3.3/±3.3 VDC	300/±150 mA	68 %	470/220 µF
M1WR-0505/D		5/±5 VDC	200/±100 mA	73 %	470/220 µF
M1WR-0509/D		9/9 VDC	111/±56 mA	74 %	220/100 µF
M1WR-0512/D		12/±12 VDC	83/±42 mA	75 %	100/47 µF
M1WR-0515/D		15/±15 VDC	67/±34 mA	75 %	47/22 µF
M1WR-123.3/D	9 ~ 18 VDC (12 VDC nominal)	3.3/±3.3 VDC	300/±150 mA	69 %	470/220 µF
M1WR-1205/D		5/±5 VDC	200/±100 mA	75 %	470/220 µF
M1WR-1209/D		9/±9 VDC	111/±56 mA	78 %	220/100 µF
M1WR-1212/D		12/±12 VDC	83/±42 mA	80 %	100/47 µF
M1WR-1215/D		15/±15 VDC	67/±34 mA	80 %	47/22 µF
M1WR-243.3/D	18 ~ 36 VDC (24VDC nominal)	3.3/±3.3 VDC	300/±150 mA	70 %	470/220 µF
M1WR-2405/D		5/±5 VDC	200/±100 mA	78 %	470/220 µF
M1WR-2409/D		9/±9 VDC	111/±56 mA	81 %	220/100 µF
M1WR-2412/D		12/±12 VDC	83/±42 mA	83 %	100/47 µF
M1WR-2415/D		15/±15 VDC	67/±34 mA	83 %	47/22 µF
M1WR-483.3/D	36 ~ 72 VDC (48 VDC nominal)	3.3/±3.3 VDC	300/±150 mA	70 %	470/220 µF
M1WR-4805/D		5/±5 VDC	200/±100 mA	75 %	470/220 µF
M1WR-4809/D		9/±9 VDC	111/±56 mA	78 %	220/100 µF
M1WR-4812/D		12/±12 VDC	83/±42 mA	80 %	100/47 µF
M1WR-4815/D		15/±15 VDC	67/±34 mA	80 %	47/22 µF

Electrical Specifications

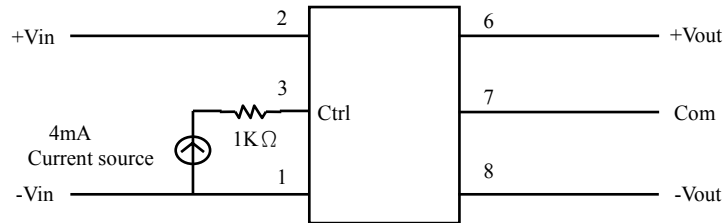
Input Filter	Pi type.				
Voltage Accuracy			MIN.	TYP.	MAX.
				±1%	
Minimum Load	20% of Full Load				
Line Regulation	Low line to High line @Max. load				±0.2%
Load Regulation	20% ~ 100% load	Single output			±0.5%
		Dual output			±0.5%
Cross Regulation	(25% to 100% Load)				±2%
Ripple & Noise	@ 20MHZ BW				50mVp-p
Operating Ambient Temperature			-40°C		+85°C
Storage Temperature			-50°C		+125°C
Short-Circuit Protection	Continuous , Automatic recovery				
Operating Frequency (Pulse Frequency Modulation,PFM)	Vin = Nominal Input		85KHz min		
Isolation Test Voltage	Tested for 1 second Minute.		MIN.	TYP.	MAX.
			1000Vdc		
Isolation Capacity					200pF
Isolation Resistance			1GΩ		
Humidity					95%
MTBF (MIL-HDBK-217F)				4366 hours	

Physical Specifications

Case Material	Non conductive Black Plastic
Potting Material	Epoxy(UL94V-0)
Weight	4.7g typ

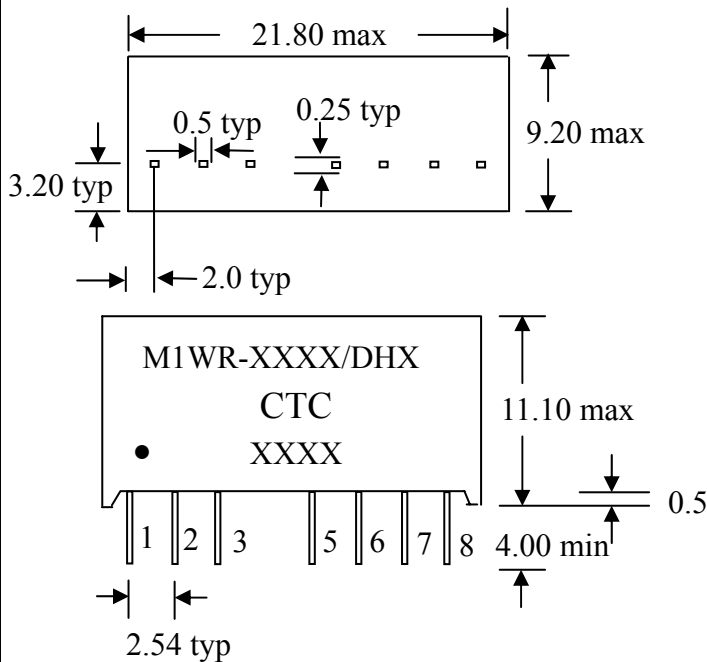
Outline Dimensions

Application circuit



Remote ON/OFF ON : open or high impedance.
 OFF: 3---6mA input current applied Via 1K Ω resistor
 (OFF stand by current 10mA max)

Outline Dimensions : mm



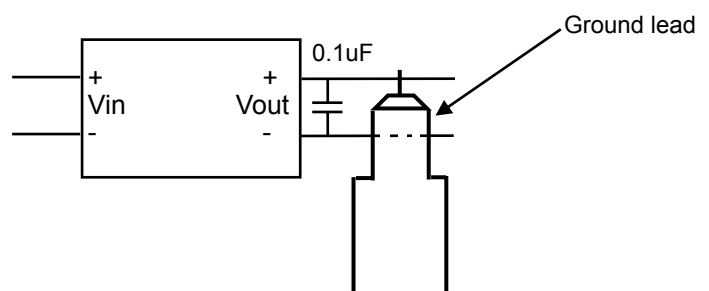
PIN CONNECTIONS		
PIN	Single	Dual
1	-INPUT	-INPUT
2	+INPUT	+INPUT
3	CTRL	CTRL
5	NC	NC
6	+OUTPUT	+OUTPUT
7	-OUTPUT	COM
8	NC	-OUTPUT

Pin diameter : 0.5 × 0.25

Tolerances : ± 0.25

Note:

- To measure the output ripple & noise with short runs by 0.1 μ F/ 50V @ 20MHz nominal input and full load. Please see as below :



Feature :

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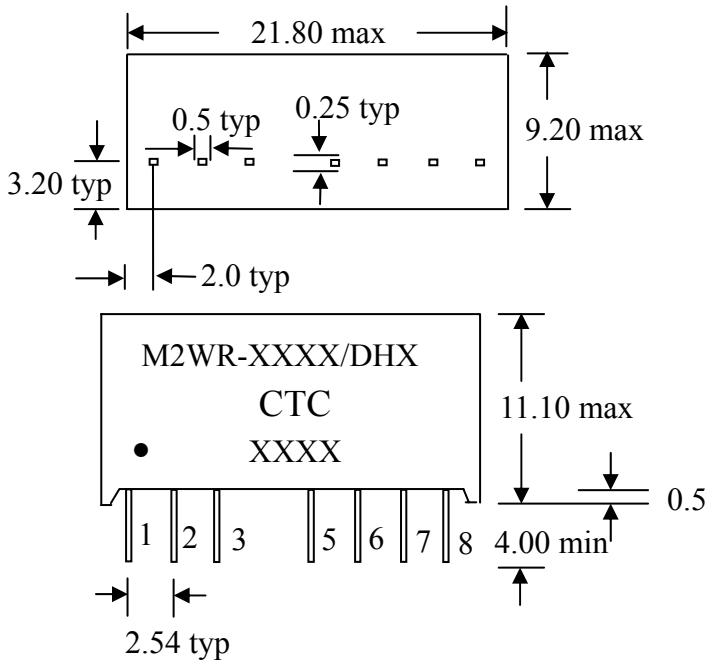
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Isolation Capacity					200pF
Isolation Resistance			1GΩ		
Humidity					95%
MTBF (MIL-HDBK-217F)				TBD	

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Outline Dimensions

Outline Dimensions : mm



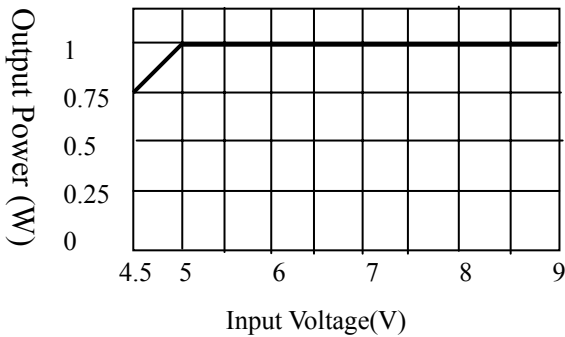
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7	-OUTPUT	COM
8	NC	-OUTPUT

Pin diameter : 0.5 × 0.25

Tolerances : ± 0.25

Typical Characteristics :

M2WR-05XX/D series derating curve of output power



Note: All data taken at Ta=25°C

Application Note :



Input Voltage	Capacitance	
	Cin	Cout
5V/12V/24V	10uf/25V	100uf/25
10uf	10uf/100V	100uf/25

It is necessary to add the Cin of low ESR capacitors for application and testing

Note:

1. To measure the output ripple & noise with short runs by 0.1uF/ 50V @ 20MHz nominal input and full load. Please see as below :

