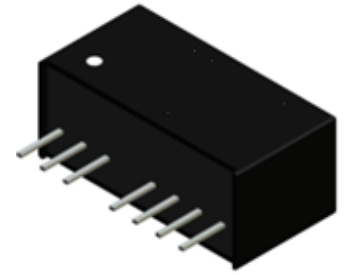


### Features

- 2:1 Wide input voltage range
- Industrial standard SIP8 package
- 2-3KVDC isolation
- Efficiency up to 80%
- UL94V-0 package material
- Excellent load and line regulation
- Continuous short circuit protection
- Low noise solution

### Application

- Wireless network
- Industry control system
- Measurement equipment
- Semiconductor equipment



### Selection Guide

Part number	Input voltage	Output voltage	Output current @ full load	Efficiency <sup>(1)</sup> (typ.)	Capacitive load <sup>(2)</sup> (max.)
M1WR-053.3H2J	4.5~9 VDC Nom. 5 VDC	3.3 VDC	300mA	68%	2200uF
M1WR-0505H2J		5 VDC	200mA	73%	1000uF
M1WR-0509H2J		9 VDC	111mA	74%	680uF
M1WR-0512H2J		12 VDC	83mA	75%	680uF
M1WR-0515H2J		15 VDC	67mA	76%	470uF
M1WR-053.3DH2J		±3.3 VDC	±150mA	68%	±1000uF
M1WR-0505DH2J		±5 VDC	±100mA	73%	±680uF
M1WR-0509DH2J		±9 VDC	±56mA	74%	±330uF
M1WR-0512DH2J		±12 VDC	±42mA	75%	±330uF
M1WR-0515DH2J		±15 VDC	±34mA	76%	±220uF
M1WR-123.3H2J	9~18 VDC Nom. 12 VDC	3.3 VDC	300mA	69%	2200uF
M1WR-1205H2J		5 VDC	200mA	75%	1000uF
M1WR-1209H2J		9 VDC	111mA	78%	680uF
M1WR-1212H2J		12 VDC	83mA	78%	680uF
M1WR-1215H2J		15 VDC	67mA	79%	470uF
M1WR-123.3DH2J		±3.3 VDC	±150mA	69%	±1000uF
M1WR-1205DH2J		±5 VDC	±100mA	75%	±680uF
M1WR-1209DH2J		±9 VDC	±56mA	78%	±330uF
M1WR-1212DH2J		±12 VDC	±42mA	78%	±330uF
M1WR-1215DH2J		±15 VDC	±34mA	79%	±220uF
M1WR-243.3H2J	18~36 VDC Nom. 24 VDC	3.3 VDC	300mA	70%	2200uF
M1WR-2405H2J		5 VDC	200mA	78%	1000uF
M1WR-2409H2J		9 VDC	111mA	79%	680uF
M1WR-2412H2J		12 VDC	83mA	79%	680uF
M1WR-2415H2J		15 VDC	67mA	80%	470uF
M1WR-243.3DH2J		±3.3 VDC	±150mA	70%	±1000uF
M1WR-2405DH2J		±5 VDC	±100mA	78%	±680uF
M1WR-2409DH2J		±9 VDC	±56mA	79%	±330uF
M1WR-2412DH2J		±12 VDC	±42mA	79%	±330uF
M1WR-2415DH2J		±15 VDC	±34mA	80%	±220uF
M1WR-483.3H2J	36~72 VDC Nom. 48 VDC	3.3 VDC	300mA	70%	2200uF
M1WR-4805H2J		5 VDC	200mA	78%	1000uF
M1WR-4809H2J		9 VDC	111mA	78%	680uF
M1WR-4812H2J		12 VDC	83mA	79%	680uF
M1WR-4815H2J		15 VDC	67mA	80%	470uF
M1WR-483.3DH2J		±3.3 VDC	±150mA	70%	±1000uF
M1WR-4805DH2J		±5 VDC	±100mA	78%	±680uF
M1WR-4809DH2J		±9 VDC	±56mA	78%	±330uF
M1WR-4812DH2J		±12 VDC	±42mA	79%	±330uF
M1WR-4815DH2J		±15 VDC	±34mA	80%	±220uF

1. The efficiency is test by nominal input and max. full load @25°C.
2. The capacitive load is test by minimum input and constant resistive load.

## Part Number

**M 1 W R - 24 3.3 H 2 J**  
 SIP8 package    Power    Wide range (2:1)    Input voltage    Output voltage

## Specifications

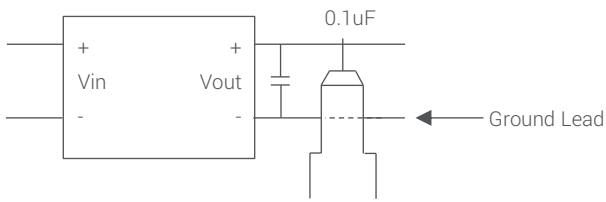
	Parameter	Conditions	Min.	Typ.	Max.	Unit
<b>Input</b>	Input voltage range				2:1	
<b>Output</b>	Voltage accuracy			±2		%
	Line regulation	HL to LL at full load			±0.5	%
	Load regulation	20%-100% load at nominal Vin		±0.5		%
	Cross regulation	Asymmetrical load 25%/100% FL			±5	%
	Ripple & noise	20MHz limited			50	mVp-p
	Operating frequency		200		900	KHz
	CTRL pin drive current Quiescent input current when converter is off				3	6
<b>Environment</b>	Operating temperature	@100LFM	-40		100	°C
	Storage temperature		-55		125	°C
	Relative humidity				95	%RH
	Max. case temperature				105	°C
<b>Functional</b>	MTBF (MIL-HDBK-217F)	+25°C	738			KHours
	Isolated voltage	H2, 1sec.	2000			VDC
		H3, 1sec.	3000			VDC
	Isolation capacitance				200	pF
	Isolation resistance		1			GΩ
	Short Circuit Protection				Continuous automatic recovery	
Safety approvals				EN60950-1		
<b>Physical</b>	Dimension	(L x W x H)		21.8x9.2x11.1 mm		
	Weight			4.7		g
	Case material			Non-conductive plastic		
	Vibration			MIL-STD-202G		
<b>EMC</b>	EMI	EN55022		Class A/ Class B		
	ESD	EN61000-4-2, Air±8kV; Contact±6kV		Criteria A		
	Radiated immunity	EN61000-4-3, 10 V/m		Criteria A		
	Fast transient	EN61000-4-4, ± 2kV		Criteria A		
	Surge	EN61000-4-5, ± 2kV		Criteria A		
	Conducted immunity	EN61000-4-6, 10 Vr.m.s		Criteria A		
	PMF	EN61000-4-8, 50Hz 1A/m (r.m.s)		Criteria A		

1. All specifications valid at nominal input voltage, full load and 25°C after warm-up time unless otherwise stated.
2. The product information and specifications are subject to change without prior notice.

CTC is the professional and one among world's leading manufacturers of DC-DC/ AC-DC converters.

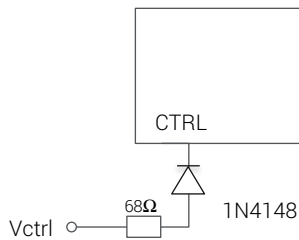
The products were used in Computers, Industrial controls, Medical equipment, Transportation, EV, ECO-power, Aero-space application and communication.

## Ripple & Noise



Measured with 20MHz bandwidth and 0.1uF ceramic capacitor.

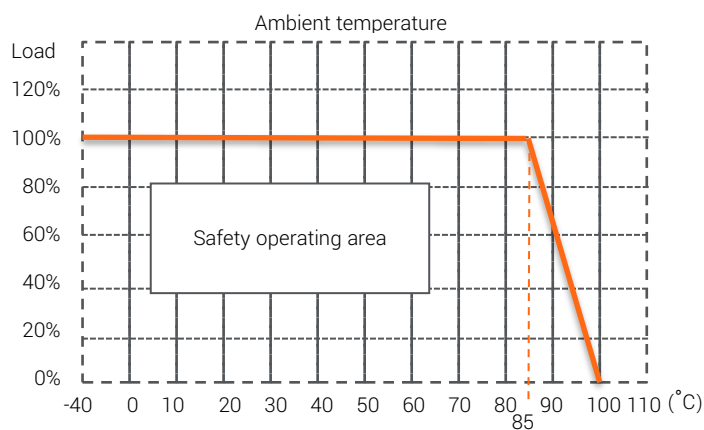
## Application Circuit\_ CTRL ON/OFF



DC/DC ON: Open

OFF =  $5V \leq Vctrl \leq 6V$

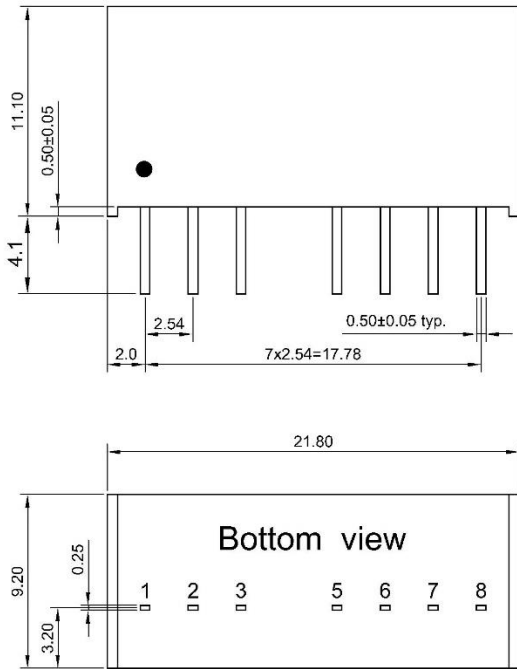
## Derating Curve



CTC is the professional and one among world's leading manufacturers of DC-DC/ AC-DC converters.

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## Mechanical Dimension & Pinning



Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	NC	NC
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout

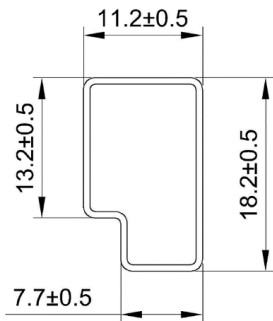
NC=No connection

Unit: mm

Tolerance: XX.X ±0.5mm

XX.XX ±0.25mm

## Package



UNIT:mm

1 Tube = 22 PCS

Length:520±2mm