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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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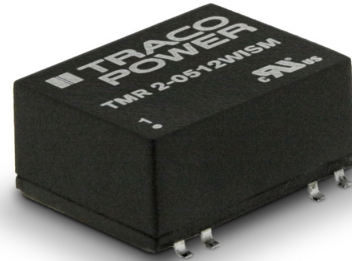
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DC/DC Converter

TMR 2WISM Series, 2 Watt

- Ultra wide 4:1 Input: 4.5–12, 9–36 and 18–75 VDC
- I/O-isolation 1'500 VDC
- Fully regulated outputs
- Operating temperature range –40°C to +80°C
- Protection against short circuit
- Remote On/Off
- 3-year product warranty



The TMR 2WISM Series is a set of 2 Watt SMD DC/DC converters. They operate up to 70°C environment temperature at full load or up to 80°C with a 50% load derating. With UL 60950-1 certification, 1'500 VDC I/O-isolation voltage, external On/Off and short current protection they cover a wide range of application when space is limited. The input of the converters is designed for a wide voltage range (4:1) and minimum load is not required.

Models				
Order code	Input voltage	Output voltage	Output current max.	Efficiency typ.
TMR 2-0511WISM	4.5 – 12 VDC (9 VDC nominal)	5.0 VDC	400 mA	80 %
TMR 2-0512WISM		12 VDC	167 mA	84 %
TMR 2-0513WISM		15 VDC	134 mA	83 %
TMR 2-0515WISM		24 VDC	83 mA	84 %
TMR 2-0522WISM		±12 VDC	±83 mA	83 %
TMR 2-0523WISM		±15 VDC	±67 mA	82 %
TMR 2-2411WISM	9 – 36 VDC (24 VDC nominal)	5.0 VDC	400 mA	80 %
TMR 2-2412WISM		12 VDC	167 mA	84 %
TMR 2-2413WISM		15 VDC	134 mA	85 %
TMR 2-2415WISM		24 VDC	83 mA	85 %
TMR 2-2422WISM		±12 VDC	±83 mA	83 %
TMR 2-2423WISM		±15 VDC	±67 mA	83 %
TMR 2-4811WISM	18 – 75 VDC (48 VDC nominal)	5.0 VDC	400 mA	78 %
TMR 2-4812WISM		12 VDC	167 mA	82 %
TMR 2-4813WISM		15 VDC	134 mA	83 %
TMR 2-4815WISM		24 VDC	83 mA	84 %
TMR 2-4822WISM		±12 VDC	±83 mA	82 %
TMR 2-4823WISM		±15 VDC	±67 mA	82 %

Input Specifications

Input current no load	9 Vin models: 40 mA typ 24 Vin models: 20 mA typ. 48 Vin models: 10 mA typ.
Surge voltage (1 s max.)	9 Vin models: 15 V max. 24 Vin models: 50 V max. 48 Vin models: 100 V max.
Start-up voltage	9 Vin models: 4.5 VDC (or lower) 24 Vin models: 9 VDC (or lower) 48 Vin models: 18 VDC (or lower)
Electromagnetic compatibility (EMC), Emissions	EN 55032 class A
Electromagnetic compatibility (EMC), Immunity	EN 55024
– Conducted RI suppression on input	IEN 61000-4-2, air ±8 kV, contact ±6 kV, perf. criteria A
– Electrostatic discharge (ESD)	EN 61000-4-3, 10 V/m, perf. criteria A
– Radiated RF field immunity	EN 61000-4-4, ±2 kV, perf. criteria A
– Electrical fast transient / burst immunity	with external capacitor: 220 µF / 100V
– Surge immunity	EN 61000-4-5, ±1 kV, perf. criteria A
– Immunity to conducted RF disturbances	with external capacitor: 220 µF / 100V
– Magnetic field immunity	EN 61000-4-6, 10 Vrms, perf. criteria A
Input filter	EN 61000-4-8, 3 A/m, perf. criteria A
Short Circuit Input Power	Pi-filter
	1500 mW max.

Output Specifications

Voltage set accuracy	±1 % max.
Voltage balance (dual output models)	2 % max.
Regulation	0.5 % max.
– Input variation	1 % max.
– Load variation 0 – 100 %	5 % max. (asymmetrical load 25 % / 100 %)
– Cross regulation - dual output:	
Temperature coefficient	±0.02 %/K max.
Minimum load	not required
Ripple and noise (20 MHz Bandwidth)	50 mVp-p max.
Start up time(constant resistive load)	30 ms max.
Transient response (25% load step change)	250 µs typ.
– Recovery time	5 % max.
– Deviation	
Current limitation	160 % of lout nom. typ. (foldback)
Short circuit protection	continuous, automatic recovery
Capacitive load	5.0 VDC models: 1680 µF max.
– Single output	12 VDC models: 820 µF max.
	15 VDC models: 680 µF max.
	24 VDC models: 390 µF max.
– Dual output	±12 VDC models: 470 µF max. (each output)
	+15 VDC models: 330 µF max. (each output)

General Specifications

Temperature ranges	– Operating (convection cooling: 20 LFM, 0.1 m/s) – Case temperature – Storage temperature	–40°C to +80°C +95°C max. –55°C to +125°C
Derating		4%/K above 70°C
Humidity (non condensing)		95 % rel H max.

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

General Specifications

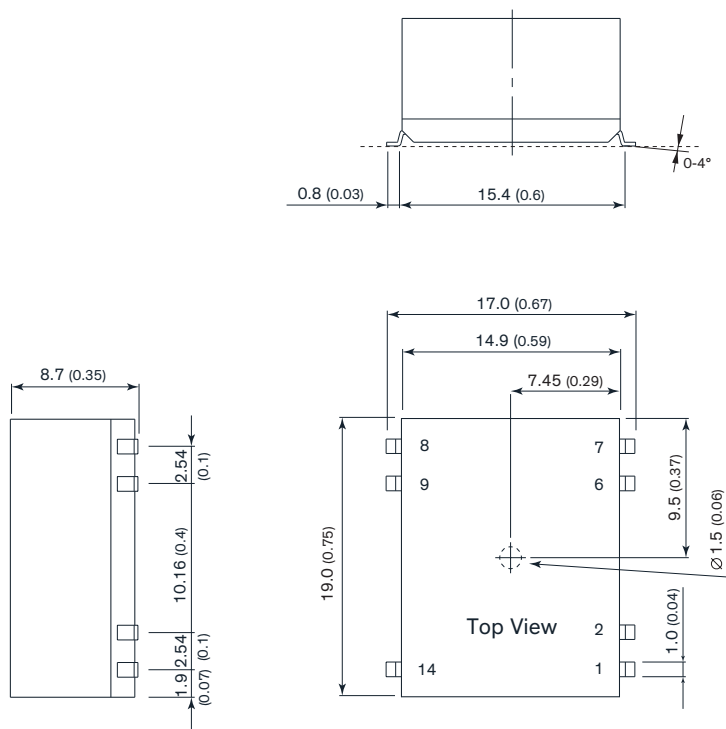
Isolation voltage	– I/O isolation voltage (60 s) – I/O isolation voltage (1 s)	1'500 VDC 1'800 VDC
Isolation capacitance (@ 100kHz / 1V)		500 pF typ.
Isolation resistance (@ 500 VDC)		>1 Gohm
Reliability, calculated MTBF (MIL-HDBK-217F at +25°C, ground benign)		6'400'000 h min.
Switching frequency		100 kHz min. Pulse frequency modulation.
Safety standards		IEC/EN 60950-1 UL 60950-1 www.tracopower.com/overview/tmr2wism
Remote On/Off	– On: – Off: – Off idle current:	open circuit or high impedance 2 – 4 mA current applied via 1kOhm resistor 2.5 mA typ.
Environmental compliance	– Reach – RoHS	www.tracopower.com/info/reach-declaration.pdf RoHS directive 2011/65/EU
Moisture sensitivity level (MSL)		IPC J-STD-033C Level 2
Washing process		not recommended, product non-hermetical

Physical Specifications

Casing material		non-conducting FR4 (UL 94V-0 rated)
Pin material		tinned copper
Package weight		3.5 g (0.12 oz)
Lead-free reflow solder process		IPC J-STD-020D

Supporting Documents: www.tracopower.com/overview/tmr2wism

Outline Dimensions



Pin-Out		
Pin	Single	Dual
1	-Vin (GND)	-Vin (GND)
2	On/Off	On/Off
6	no con.	Com.
7	no con.	-Vout
8	+Vout	+Vout
9	-Vout	Com.
14	+Vin (Vcc)	+Vin (Vcc)

Dimensions in [mm], () = Inch
 Tolerances: x.x ±0.5 (±0.02)
 x.xx ±0.25 (±0.01)
 Pin dimension tolerance ±0.05 (±0.002)