Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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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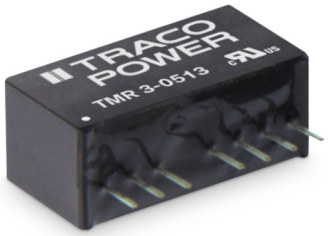
DC/DC Converters

TMR 3 Series, 3 Watt

UL 60950-1

Features

- Wide 2:1 input voltage range
- Fully regulated output voltage
- Compact SIP-8 package
- Models with 1'500 VDC and 3'000 VDC I/O isolation (functional insulation)
- Small footprint
- Temperature range –40° to +85°C
- High efficiency up to 85%
- Short-circuit protection
- Remote On/Off control
- 3-year product warranty



The TMR-3 series is a new family of isolated 3W dc-dc converter modules with regulated output, featuring wide 2:1 input voltage ranges. The product comes in a compact SIP-8 plastic package with a small footprint occupying only 2.0 cm2 (0.3 square in.) of board space.
An excellent efficiency allows –40° to +85°C operation temperatures. Further features include remote On/Off control and continuous short circuit protection. The compact dimensions of these converters make them an ideal solution for many space critical applications in communication equipment, instrumentation and industrial electronics.

Models

Order code		Input voltage range	Output voltage	Output current max.	Efficiency typ.
1500 VDC isolation	3000 VDC isolation				
TMR 3-0510	TMR 3-0510HI	4.5 – 9.0 VDC (5 VDC nominal)	3.3 VDC	700 mA	75 %
TMR 3-0511	TMR 3-0511HI		5 VDC	600 mA	79 %
TMR 3-0512	TMR 3-0512HI		12 VDC	250 mA	81 %
TMR 3-0513	TMR 3-0513HI		15 VDC	200 mA	82 %
TMR 3-0521	TMR 3-0521HI		±5 VDC	±300 mA	78 %
TMR 3-0522	TMR 3-0522HI		±12 VDC	±125 mA	81 %
TMR 3-0523	TMR 3-0523HI		±15 VDC	±100 mA	81 %
TMR 3-1210	TMR 3-1210HI	9 – 18 VDC (12 VDC nominal)	3.3 VDC	700 mA	77 %
TMR 3-1211	TMR 3-1211HI		5 VDC	600 mA	81 %
TMR 3-1212	TMR 3-1212HI		12 VDC	250 mA	83 %
TMR 3-1213	TMR 3-1213HI		15 VDC	200 mA	83 %
TMR 3-1221	TMR 3-1221HI		±5 VDC	±300 mA	82 %
TMR 3-1222	TMR 3-1222HI		±12 VDC	±125 mA	83 %
TMR 3-1223	TMR 3-1223HI		±15 VDC	±100 mA	83 %
TMR 3-2410	TMR 3-2410HI	18 – 36 VDC (24 VDC nominal)	3.3 VDC	700 mA	76 %
TMR 3-2411	TMR 3-2411HI		5 VDC	600 mA	82 %
TMR 3-2412	TMR 3-2412HI		12 VDC	250 mA	83 %
TMR 3-2413	TMR 3-2413HI		15 VDC	200 mA	84 %
TMR 3-2421	TMR 3-2421HI		±5 VDC	±300 mA	80 %
TMR 3-2422	TMR 3-2422HI		±12 VDC	±125 mA	83 %
TMR 3-2423	TMR 3-2423HI		±15 VDC	±100 mA	85 %
TMR 3-4810	TMR 3-4810HI	36 – 75 VDC (48 VDC nominal)	3.3 VDC	700 mA	74 %
TMR 3-4811	TMR 3-4811HI		5 VDC	600 mA	79 %
TMR 3-4812	TMR 3-4812HI		12 VDC	250 mA	81 %
TMR 3-4813	TMR 3-4813HI		15 VDC	200 mA	82 %
TMR 3-4821	TMR 3-4821HI		±5 VDC	±300 mA	79 %
TMR 3-4822	TMR 3-4822HI		±12 VDC	±125 mA	82 %
TMR 3-4823	TMR 3-4823HI		±15 VDC	±100 mA	83 %

Input Specifications

Input current at full load / at no load (nominal input voltage)	5 Vnom models:	810 mA max. / 60 mA typ.
	12 Vnom models:	330 mA max. / 30 mA typ.
	24 Vnom models:	160 mA max. / 18 mA typ.
	48 Vnom models:	85 mA max. / 12 mA typ.
Surge voltage (100 msec. max.)	5 Vnom models:	15 V max.
	12 Vnom models:	36 V max.
	24 Vnom models:	50 V max.
	48 Vnom models:	100 V max.
Input voltage variation (dv/dt)		5 V/ms, max. (complies with ETS300 132 part 4.4)
Input filter		capacitor type (see application note for compliance to EN 55022 class A/B)
Start up time (constant resistive load)	– Power On	30 ms typ.
	– Remote On	30 ms typ.

Output Specifications

Voltage set accuracy			±1 % max
Regulation	– Input variation Vin min. to Vin max.		0.2 % max.
	– Load variation 5 – 100%	single output models:	0.5 % max.
		dual output models:	1.0 % max. balanced load
	– Load variation 0 – 100%	single output models:	1.0 % max.
		dual output models:	1.0 % max. balanced load
	– Load cross regulation 25/100%		5.0 % max. (dual output models)
Minimum load			not required
Ripple and noise (20 MHz Bandwidth)			50 mVp-p max.
Transient response setting time (25% load step change)			500 µs typ.
Short circuit protection			continuous, automatic recovery
Capacitive load		3.3 VDC / 5 VDC output models:	3300 µF max. / 1680 µF max.
		12 VDC / 15 VDC output models:	820 µF max. / 680 µF max.
		±5 VDC / ±12 VDC output models:	±1000 µF max. / ±470 µF max.
		±15 VDC output models:	±330 µF max.

General Specifications

Temperature ranges	– Operating		–40°C to +85°C
	– Case temperature		+100°C max.
	– Storage		–55°C to +105°C
Load derating			3.3 %/K above 70°C
Humidity (non condensing)			5 – 95 % rel. H max.
Temperature coefficient			±0.02 %/K
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)			>4.8 Mio h
Isolation voltage (60 sec.)	– Input/Output		1600 VDC
		with suffix -HI:	3000 VDC
Isolation capacitance	– Input/Output		200 pF max.
		with suffix -HI:	40 pF max.
Isolation resistance	– Input/Output (500 VDC)		>1 GOhm
Switching frequency			100 kHz min. (PFM)
Remote On/Off	– On:		open or high impedance
	– Off:		2...4 mA current applied via 1KOhm resistor
	– Off stand by input current		2.5 mA max.

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

General Specifications

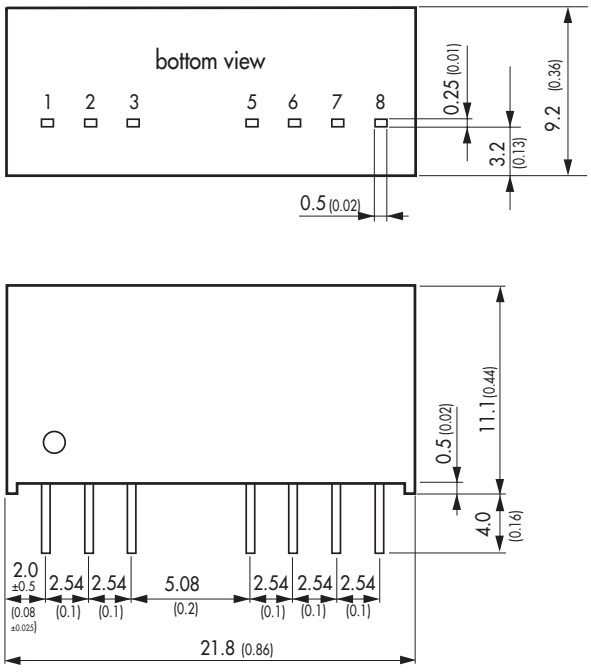
Safety standards		IEC/EN 60950-1, UL 60950-1
	– Certification documents	www.tracopower.com/overview/tmr3
Environmental compliance	– Reach	www.tracopower.com/info/reach-declaration.pdf
	– RoHS	RoHS directive 2011/65/EU

Physical Specifications

Casing material	non-conductive plastic
Potting material	silicone, (UL 94V-0 rated)
Weight	4.8 g (0.17oz)

Supported documents: www.tracopower.com/overview/tmr3

Outline Dimensions mm (inches)



Pin-Out		
Pin	**Single**	**Dual**
1	–Vin (GND)	–Vin (GND)
2	+Vin (Vcc)	+Vin (Vcc)
3	Remote On/Off	Remote On/Off
5*	No function	No function
6	+Vout	+Vout
7	–Vout	Common
8	No function	–Vout

*No pin 5 with HI version

Dimensions in [mm], () = Inch
Tolerances: ±0.5 (±0.02)
Pin pich tolerances: ±0.25 (±0.01)