



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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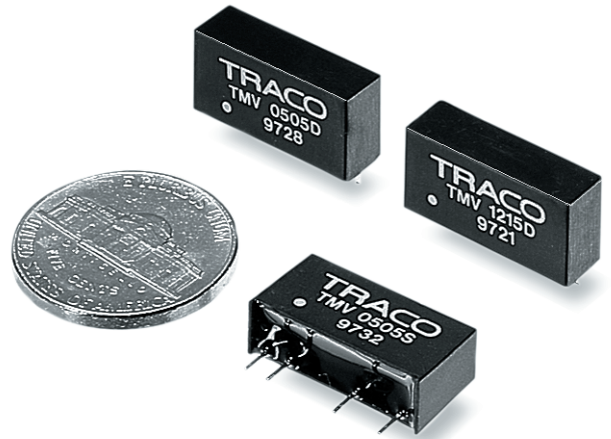
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Features

- ◆ Single-in-line (SIL) package
- ◆ Isolated single and dual output models
- ◆ I/O isolation 3'000 VDC
- ◆ High Efficiency up to 81%
- ◆ Extended temperature range
-40°C to +85°C
- ◆ Pin-compatible with other manufacturers
- ◆ 100% Burn-in (8 h)
- ◆ Lead free design, RoHS compliant
- ◆ 3-year product warranty



The TMV series are miniature, isolated 1 W DC/DC-converters with high isolation in a Single-in-Line package (SIP). Requiring only 1.2 cm² board space they offer the ideal solution in many space critical applications for board level power distribution. The use of SMD-technology makes it possible to offer a product with high performance at low cost.

Models				
Ordercode	Input voltage	Output voltage	Output current max.	Efficiency typ.
TMV 0505S	5 VDC ±10%	5 VDC	200 mA	71 %
TMV 0509S		9 VDC	110 mA	76 %
TMV 0512S		12 VDC	84 mA	78 %
TMV 0515S		15 VDC	67 mA	78 %
TMV 0505D		± 5 VDC	±100 mA	72 %
TMV 0512D		±12 VDC	±42 mA	78 %
TMV 0515D		±15 VDC	±34 mA	79 %
TMV 1205S	12 VDC ±10%	5 VDC	200 mA	73 %
TMV 1212S		12 VDC	84 mA	80 %
TMV 1215S		15 VDC	67 mA	80 %
TMV 1205D		± 5 VDC	±100 mA	74 %
TMV 1212D		±12 VDC	±42 mA	81 %
TMV 1215D		±15 VDC	±34 mA	81 %
TMV 2405S	24 VDC ±10%	5 VDC	200 mA	71 %
TMV 2412S		12 VDC	84 mA	78 %
TMV 2415S		15 VDC	67 mA	79 %
TMV 2405D		± 5 VDC	±100 mA	72 %
TMV 2412D		±12 VDC	±42 mA	79 %
TMV 2415D		±15 VDC	±34 mA	80 %

Input Specifications

Input current no load /full load	5 Vin models	30 mA / 270 mA typ.
	12 Vin models	12 mA / 110 mA typ.
	24 Vin models	7 mA / 55 mA typ.
Surge voltage (1 s max.)	5 Vin models	9 V max.
	12 Vin models	18 V max.
	24 Vin models	30 V max.
Reverse voltage protection		0.3 A max.
Reflected input ripple current		can be reduced by ext. 1–3.3 µF polyester film capacitor
Input filter		internal capacitor

Output Specifications

Voltage set accuracy		±1 % typ. / ±3 % max.
Voltage balance (dual output models, balanced loads)		±0.1 % typ. / ±1 % max.
Regulation	– Input variation (1 % change of Vin)	1.2 % typ. / 1.5 % max.
	– Load variation (20 – 100 %)	5 to 10 % max.
Ripple and noise (20 MHz Bandwidth)		65 mVp-p typ. / 100 mVp-p max.
Temperature coefficient		±0.01 %/K typ. / ±0.02 %/K max.
Short circuit protection		limited 0.5 s max.
Capacitive load	single output models:	220 µF max.
	dual output models:	100 µF max. (each output)

General Specifications

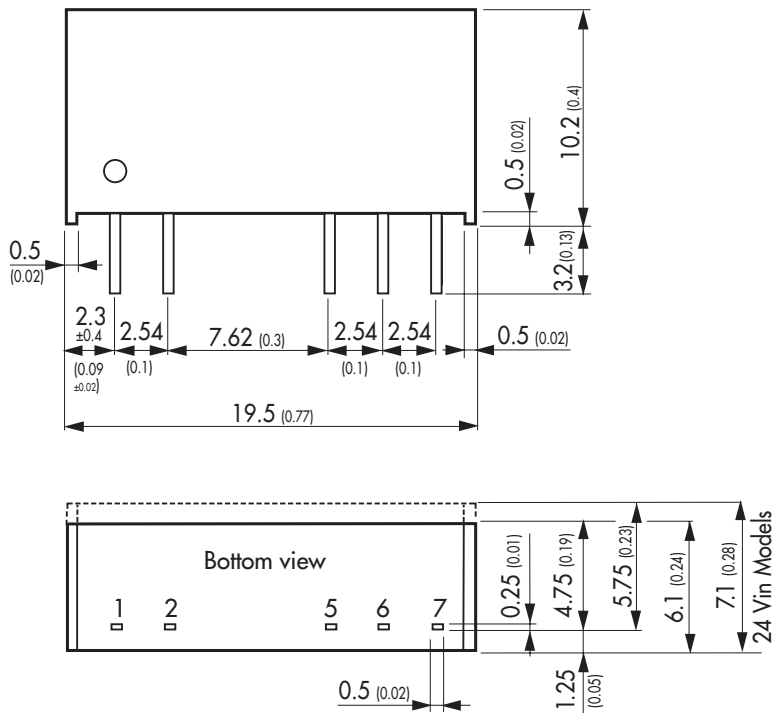
Temperature Ranges	– Operating	3.3, 5 & ±5 Vout models:	–40°C to +85°C
		all other output models:	–40°C to +90°C
	– Case temperature		+95°C max.
	– Storage		–50°C to +125°C
Derating		3.3, 5 & ±5 Vout models:	4 %/K above 75 °C
		all other output models:	4 %/K above 80 °C
Humidity (non condensing)			95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217F at +25°C, ground benign)			>2'000'000 h
Isolation Test Voltage (Input/Output, 60 s)			3'000 VDC
Insulation System			Functional
Isolation Capacitance (Input/Output)			60 pF typ. / 100 pF max.
Isolation Resistance (Input/Output)			>10 GOhm
Switching Frequency			70 to 120 kHz (Frequency modulation)
Environmental Compliance	– Reach		www.tracopower.com/products/reach-declaration.pdf
	– RoHS		RoHS directive 2011/65/EU

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

Physical Specifications

Casing material	non conductive plastic (UL 94V-0 rated)	
Package weight	5 & 12 Vin models:	2.1 g (0.07 oz)
	24 Vin models:	2.6 g (0.09 oz)
Soldering temperature	max. 265°C / 10 s	

Outline Dimensions mm (inches)



Pin-Out		
Pin	Single	Dual
1	+Vin (Vcc)	+Vin (Vcc)
2	-Vin (GND)	-Vin (GND)
5	-Vout	-Vout
6	No pin	Common
7	+Vout	+Vout

Dimensions in [mm], () = Inch
Tolerances: ±0.25 (±0.01)
Pins: ±0.05 (±0.002)

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com