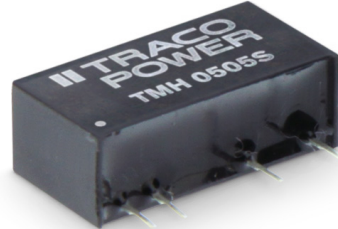


#### Features

- ◆ Single-in-line package (SIP)
- ◆ Fully SMD-design
- ◆ Isolated single and dual output
- ◆ I/O isolation 1'000 VDC
- ◆ Unregulated device
- ◆ High efficiency up to 83 %
- ◆ Industry standard pinout
- ◆ 100% burn-in (8 h)
- ◆ Lead free design, RoHS compliant
- ◆ 3-year product warranty



The TMH series are ultra miniature, isolated 2 Watt DC/DC-converters in a Single-in-Line package (SIP). Requiring only 1.5 cm<sup>2</sup> 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.
TMH 0505S	5 VDC ±10%	5 VDC	400 mA	76 %
TMH 0512S		12 VDC	165 mA	80 %
TMH 0515S		15 VDC	133 mA	80 %
TMH 0505D		±5 VDC	±200 mA	77 %
TMH 0512D		±12 VDC	±83 mA	79 %
TMH 0515D		±15 VDC	±66 mA	79 %
TMH 1205S		12 VDC ±10%	5 VDC	400 mA
TMH 1212S	12 VDC		165 mA	82 %
TMH 1215S	15 VDC		133 mA	83 %
TMH 1205D	±5 VDC		±200 mA	79 %
TMH 1212D	±12 VDC		±83 mA	82 %
TMH 1215D	±15 VDC		±66 mA	82 %
TMH 2405S	24 VDC ±10%		5 VDC	400 mA
TMH 2412S		12 VDC	165 mA	81 %
TMH 2415S		15 VDC	133 mA	82 %
TMH 2405D		±5 VDC	±200 mA	79 %
TMH 2412D		±12 VDC	±83 mA	81 %
TMH 2415D		±15 VDC	±66 mA	82 %

### Input Specifications

Input current no load / full load	5 Vin models	60 mA / 510 mA typ.
	12 Vin models	30 mA / 200 mA typ.
	24 Vin models	15 mA / 100 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 capacitors

### 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 % input voltage change)	1.2 % typ. / 1.5 % max.
	– Load variation (20 – 100 %)	5 to 11 % max. (depending on model)
Ripple and noise (20 MHz Bandwidth)		100 mVp-p typ. / 150 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	470 µF max.
	– Dual output models	390 µF max.

### General Specifications

Temperature ranges	– Operating	–40°C to +85°C
	– Case temperature	+90°C max.
	– Storage	–50°C to +125°C
Derating (natural convection)		3 %/K above +70°C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217F at +25°C, ground benign)		>2'000'000 h
Isolation voltage (60 s)	– Input/Output	1'000 VDC
Isolation capacitance	– Input/Output	80 pF typ.
Isolation resistance	– Input/Output	>1'000 Mohm
Switching frequency		50 to 100 kHz (frequency modulation)
Environmental compliance	– Reach	<a href="http://www.tracopower.com/info/reach-declaration.pdf">www.tracopower.com/info/reach-declaration.pdf</a>
	– RoHS	RoHS directive 2002/95/EC

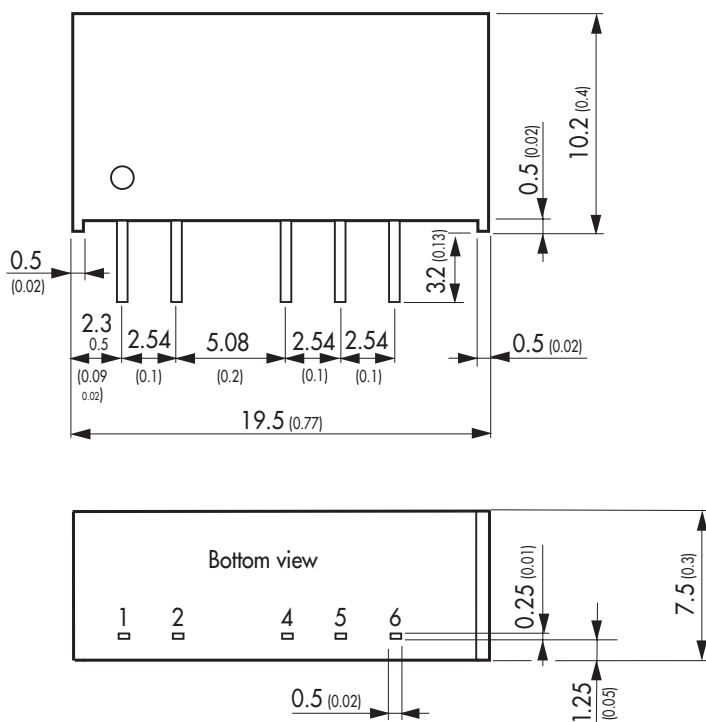
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

**Physical Specifications**

Casing material	non conductive black plastic (UL 94-V0 rated)
Package weight	2.7 g (0.1oz)
Soldering temperature	max. +265°C / 10 s

**Supporting documents:** [www.tracopower.com/overview/tmh](http://www.tracopower.com/overview/tmh)

**Outline Dimensions mm (inches)**



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

Tolerances  $\pm 0.25$  ( $\pm 0.01$ )  
pins  $\pm 0.05$  ( $\pm 0.002$ )

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at [www.tracopower.com](http://www.tracopower.com)