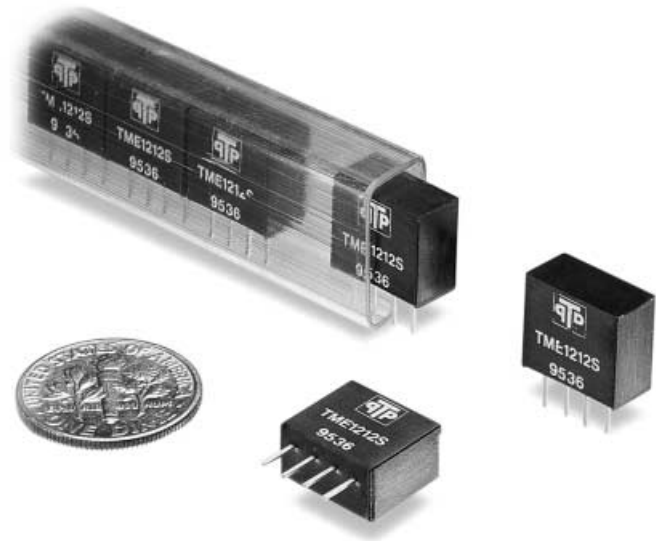


### Features

- Single-in-Line Package (SIP)
- I/O-Isolation 1'000 VDC
- High Efficiency up to 80%
- Operating Temperature -40°C to +85°C
- Pin-compatible with other Manufacturers
- 100% Burn-in (8 h)
- 2 Year Product Warranty



The TME series is a range of sub-miniature , isolated DC/DC-converters in a SIP-package, which requires only 0.7 cm<sup>2</sup> of board space. They provide a cost effective solution to generate supplementary, isolated voltages. Full SMD-design and a 100 % production test of parameters ensure a high reliability of this product.

### Models

Ordercode	Input voltage	Output voltage	Output current max.	Efficiency typ.
TME 0505S TME 0509S TME 0512S TME 0515S	5 VDC ±10%	5 VDC 9 VDC 12 VDC 15 VDC	200 mA 110 mA 80 mA 65 mA	70 % 76 % 77 % 78 %
TME 1205S TME 1509S TME 1212S TME 1215S	12 VDC ±10%	5 VDC 9 VDC 12 VDC 15 VDC	200 mA 110 mA 80 mA 65 mA	71 % 77 % 79 % 80 %
TME 2405S TME 2409S TME 2412S TME 2415S	24 VDC ±10%	5 VDC 9 VDC 12 VDC 15 VDC	200 mA 110 mA 80 mA 65 mA	70 % 76 % 79 % 79 %

**Input Specifications**

Input current no load /full load	5 Vin models 12 Vin models 24 Vin models	30 mA / 290 mA typ. 15 mA / 120 mA typ. 10 mA / 60 mA typ.
Surge voltage (1 sec. max.)	5 Vin models 12 Vin models 24 Vin models	9 V max. 18 V max. 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		± 3 %
Regulation	– Input variation – Load variation 20 – 100 %	± 1.2 % / 1 % change Vin ± 10 % max.
Ripple and noise (20 MHz Bandwidth)		150 mV pk-pk max.
Temperature coefficient		± 0.02 % / °C
Short circuit protection		limited 1 sec. max.
Capacitive load		33 µF max.

**General Specifications**

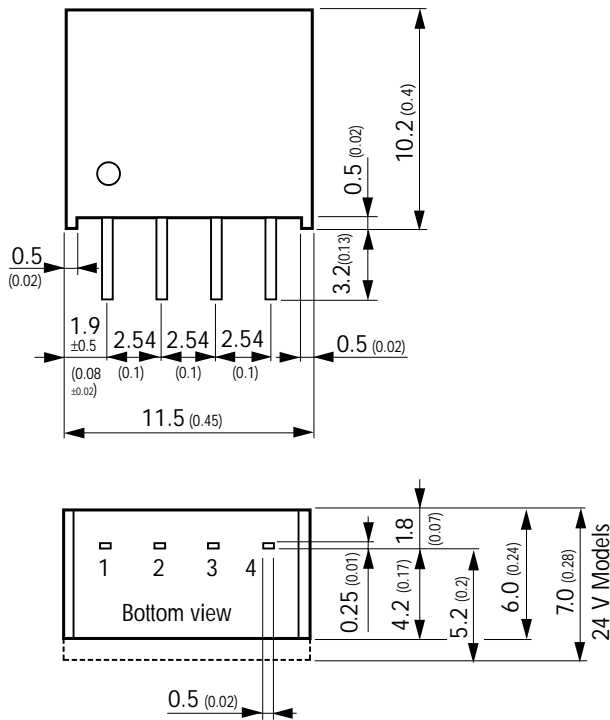
Temperature ranges	– Operating – Case temperature – Storage	– 40 °C ... +85 °C + 95 °C max. – 40 °C ... +105 °C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		> 2'000'000 h @ 25 °C
Isolation voltage	Input/Output	1'000 VDC
Isolation capacity	Input/Output	60 pF typ.
Isolation resistance	Input/Output	> 1'000 Mohm
Switching frequency		90 kHz typ. (Frequency modulation)
Frequency change over line and load		± 30 % max.

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

**Physical Specifications**

Case material		non conductive black plastic (flammability to UL 94-V0)
Package weight	5 Vin & 12 Vin models 24 Vin models	1.3 g (0.05 oz) 1.7 g (0.06 oz)
Soldering temperature		max. 260°C / 10 sec

**Outline Dimensions mm (inches)**



Pin-Out	
Pin	Single
1	-Vin (GND)
2	+Vin (Vcc)
3	-Vout
4	+Vout

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

Specifications can be changed without notice