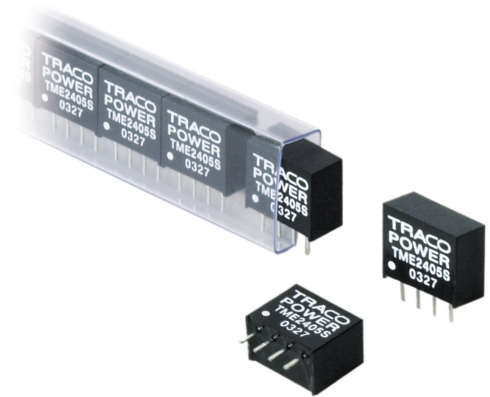




Features

- ◆ Single-in-Line Package (SIP)
- ◆ I/O-Isolation 1'000 VDC
- ◆ High Efficiency up to 80%
- ◆ Operating Temperature -40°C to $+85^{\circ}\text{C}$
- ◆ Industry Standard Pinout
- ◆ 100% Burn-in (8 h)
- ◆ Lead free Design, RoHS compliant
- ◆ 3 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 cm² 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 | 5 VDC $\pm 10\%$ | 5 VDC | 200 mA | 70 % |
| TME 0509S | | 9 VDC | 110 mA | 76 % |
| TME 0512S | | 12 VDC | 80 mA | 77 % |
| TME 0515S | | 15 VDC | 65 mA | 78 % |
| TME 1205S | 12 VDC $\pm 10\%$ | 5 VDC | 200 mA | 71 % |
| TME 1509S | | 9 VDC | 110 mA | 77 % |
| TME 1212S | | 12 VDC | 80 mA | 79 % |
| TME 1215S | | 15 VDC | 65 mA | 80 % |
| TME 2405S | 24 VDC $\pm 10\%$ | 5 VDC | 200 mA | 70 % |
| TME 2409S | | 9 VDC | 110 mA | 76 % |
| TME 2412S | | 12 VDC | 80 mA | 79 % |
| TME 2415S | | 15 VDC | 65 mA | 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 % / K |
| Short circuit protection | | limited 1 sec. max. |
| Capacitive load | | 33 µF max. |

General Specifications

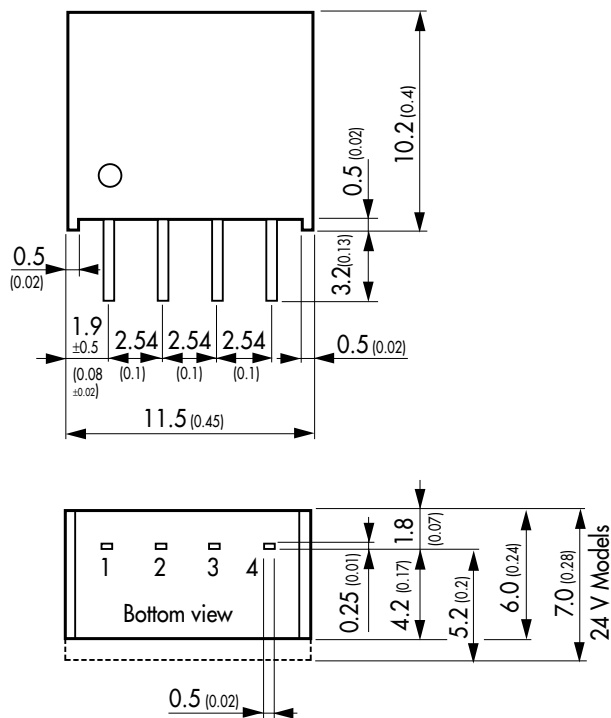
| | | |
|--|--|--|
| Temperature ranges | – Operating – Case temperature – Storage | –40 °C ... +85 °C +95 °C max. –40 °C ... +105 °C |
| Humidity (non condensing) | | 95 % rel H max. |
| Reliability, calculated MTBF (MIL-HDBK-217E) | | >2'000'000 h @ 25 °C |
| Isolation voltage | Input/Output | 1'000 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 (UL 94-V0 rated) | |
| Package weight | 5 Vin & 12 Vin models | 1.3 g (0.05 oz) |
| | 24 Vin models | 1.7 g (0.06 oz) |
| Soldering temperature | max. 265°C / 10 sec | |

Outline Dimensions mm (inches)



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

Tolerances ± 0.25 (0.01)
pins ± 0.05 (0.002)

Specifications can be changed without notice