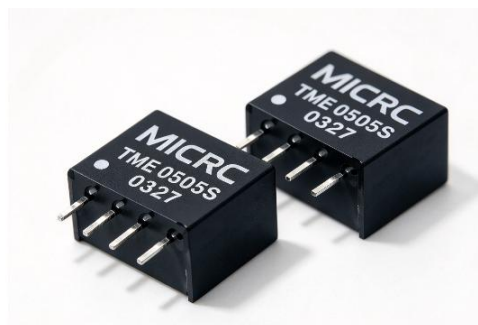


TME Series

DC/DC Converters · 1 Watt

Features

- Single-in-line package (SIP)
- I/O isolation 1'000 VDC
- High efficiency up to 80%
- Operating temperature -40°C to +85°C
- Industry standard pinout
- 100% burn-in (8 h)
- Lead free design, RoHS compliant
- 3-year product warranty



Description

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 0303S	3.3 VDC	3.3 VDC	260 mA	74 %
TME 0305S	3.3 VDC ±10%	5.0 VDC	200 mA	77 %
TME 0503S	5 VDC ±10%	3.3 VDC	260 mA	72 %
TME 0505S	5 VDC ±10%	5 VDC	200 mA	70 %
TME 0509S	5 VDC ±10%	9 VDC	110 mA	76 %
TME 0512S	5 VDC ±10%	12 VDC	80 mA	77 %
TME 0515S	5 VDC ±10%	15 VDC	65 mA	78 %
TME 1205S	12 VDC ±10%	5 VDC	200 mA	71 %
TME 1209S	12 VDC ±10%	9 VDC	110 mA	77 %

Ordercode	Input voltage	Output voltage	Output current max.	Efficiency typ.
TME 1212S	12 VDC $\pm 10\%$	12 VDC	80 mA	79 %
TME 1215S	12 VDC $\pm 10\%$	15 VDC	65 mA	80 %
TME 2405S	24 VDC $\pm 10\%$	5 VDC	200 mA	70 %
TME 2409S	24 VDC $\pm 10\%$	9 VDC	110 mA	76 %
TME 2412S	24 VDC $\pm 10\%$	12 VDC	80 mA	79 %
TME 2415S	24 VDC $\pm 10\%$	15 VDC	65 mA	79 %

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

Input Specifications

Input current no load / full load: 3.3 Vin models: 35 mA / 370 mA typ.; 5 Vin models: 30 mA / 260 mA typ.; 12 Vin models: 13 mA / 110 mA typ.; 24 Vin models: 7 mA / 55 mA typ.

Surge voltage (1 sec. max.): 3.3 Vin models: 6 V 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 μ F polyester film capacitor

Input filter: Internal capacitors

Output Specifications

Voltage set accuracy: $\pm 3\%$

Regulation – Input variation: 1.2 % / 1 % change Vin

Regulation – Load variation 20 – 100 %: 10 % max.

Ripple and noise (20 MHz Bandwidth): 150 mV pk-pk max.

Temperature coefficient: $\pm 0.02\%/K$

Short circuit protection: limited 1 sec. max.

Capacitive load: 33 μ F max.

General Specifications

Temperature ranges – Operating: -40°C to $+85^{\circ}\text{C}$

Temperature ranges – Case temperature: $+95^{\circ}\text{C}$ max.

Temperature ranges – Storage: -40°C to $+105^{\circ}\text{C}$

Humidity (non condensing): 95 % rel H max.

Reliability, calculated MTTF (MIL-HDBK-217F, @ $+25^{\circ}\text{C}$ ground benign): $>2'000'000$ h

Isolation voltage (60 sec.) 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.

Physical Specifications

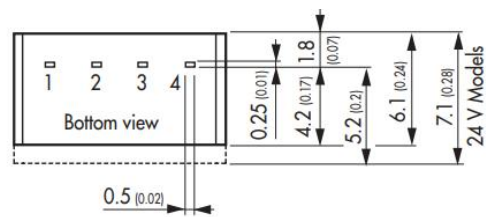
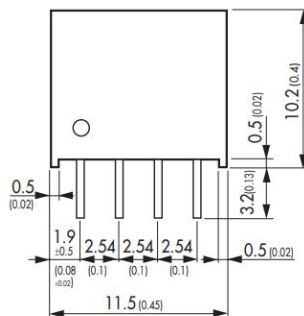
Casing material: non conductive black plastic (UL 94-V0 rated)

Package weight: 3.3 / 5.0 / 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.

Pin-Out

Pin	Single
1	$-V_{in}$ (GND)
2	$+V_{in}$ (Vcc)
3	$-V_{out}$
4	$+V_{out}$



Tolerances: ± 0.25 (± 0.01); Pin pitch tolerance ± 0.13 (± 0.005); pins ± 0.05 (± 0.002)

Specifications can be changed any time without notice.