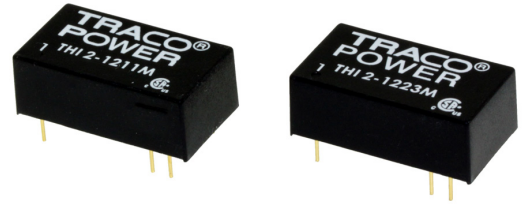


Features

- ◆ Ultracompact DIP 16 package
- ◆ I/O isolation 3000 VACrms rated for 300 Vrms working voltage
- ◆ Medical safety to UL 60601-1 and IEC/EN 60601-1 3rd edition, 2 x MOOP
- ◆ Industrial safety to IEC/EN/UL 60950-1
- ◆ Operating temp. range -40°C to $+71^{\circ}\text{C}$
- ◆ 3-years product warranty



The THI 2M series is a new range of ultra-compact 2W DC/DC-converters providing a high I/O-isolation voltage of 3000 VAC. With a reinforced I/O-isolation system this product is an economical solution for many applications in instrumentation, industrial controls, medical equipment and everywhere where supplementary- or reinforced insulation is required to meet requested safety standards. Full SMD-design with exclusive use of ceramic capacitors ensure a very high reliability and a long product lifetime.

Models

Order code	Input voltage range	Output voltage	Output current max.	Efficiency typ.
THI 2-0511M	5.0 VDC \pm 10% (nominal 5 VDC)	5 VDC	400 mA	66 %
THI 2-0512M		12 VDC	165 mA	66 %
THI 2-0513M		15 VDC	133 mA	66 %
THI 2-0522M		\pm 12 VDC	\pm 83 mA	72 %
THI 2-0523M		\pm 15 VDC	\pm 66 mA	73 %
THI 2-1211M	12.0 VDC \pm 10% (nominal 12 VDC)	5 VDC	400 mA	66 %
THI 2-1212M		12 VDC	165 mA	66 %
THI 2-1213M		15 VDC	133 mA	66 %
THI 2-1222M		\pm 12 VDC	\pm 83 mA	74 %
THI 2-1223M		\pm 15 VDC	\pm 66 mA	75 %
THI 2-2411M	24 VDC \pm 10% (nominal 24 VDC)	5 VDC	400 mA	66 %
THI 2-2412M		12 VDC	165 mA	66 %
THI 2-2413M		15 VDC	133 mA	66 %
THI 2-2422M		\pm 12 VDC	\pm 83 mA	74 %
THI 2-2423M		\pm 15 VDC	\pm 66 mA	75 %

Input Specifications

Input current no load	5 Vin models: 60 mA 12 Vin models: 30 mA 24 Vin models: 15 mA
Recommended external input fuse (slow blow)	5 Vin models: 1.0 A 12 Vin models: 0.5 A 24 Vin models: 0.2 A
Surge voltage (1 sec. max.)	5 Vin models: 9 V max. 12 Vin models: 18 V max. 24 Vin models: 30 V max.
Input filter	internal capacitors

Output Specifications

Voltage set accuracy	±4 %
Voltage balance (dual output models)	1 % max.
Regulation	– Input variation 1.2 % / 1.5 % change of Vin – Load variation 20 – 100 % 10 % max. 12 % max. for 5 Vout models.
Ripple and noise (0–20 MHz Bandwidth)	150 mVpk-pk max
Temperature coefficient	±0.02 %/K
Short circuit protection	0.5 sec. max. (automatic recovery)
Minimum load	2 % of rated max. current
Capacitive load	single output models: 330 µF max. dual output models: 100 µF max. (each output)

General Specifications

Temperature ranges	– Operating –40°C to +71°C – Storage –50°C to +125°C – Case temperature +90°C max.
Thermal impedance	22.5 K/W
Derating	2.5 %/K above 60°C
Humidity (non condensing)	95 % rel. H max.
Reliability, calculated MTBF (MIL-HDBK-217F, at 25°C, ground benign)	>2.0 Mio h
Isolation voltage – Input/Output (50Hz, 60sec)	Reinforced, rated for 300 Vrms working voltage 3000 VAC, 2 x MOOP Medical applications in accordance to IEC/EN 60601-1: IT applications in accordance to IEC/EN 60950-1: 4000 VAC
Isolation test voltage (1 sec.)	6'000 Vpk
Leakage current (at 240VAC, 60Hz)	2 µA max.
Isolation capacitance – Input/Output	20 pF max. (at 100KHz, 1V)
Isolation resistance – Input/Output	>10 Gohm (at 500VDC)
Switching frequency	50 – 100 kHz (PFM)
Safety standards	IEC/EN 60950-1, UL 60950-1 CSA C22.2 No. 60950-1-03 IEC/EN 60601-1 3rd edition, 2 x MOOP, UL 60601-1, CSA C22.2 No. 601.1
Safety approvals	– CSA certificate for medical electrical equipment www.tracopower.com/products/thi2m-csa60601.pdf for information technology equipment www.tracopower.com/products/thi2m-csa60950.pdf – CB test certificate for medical electrical equipment www.tracopower.com/products/thi2m-cb60601.pdf for information technology equipment www.tracopower.com/products/thi2m-cb60950.pdf

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

General Specifications

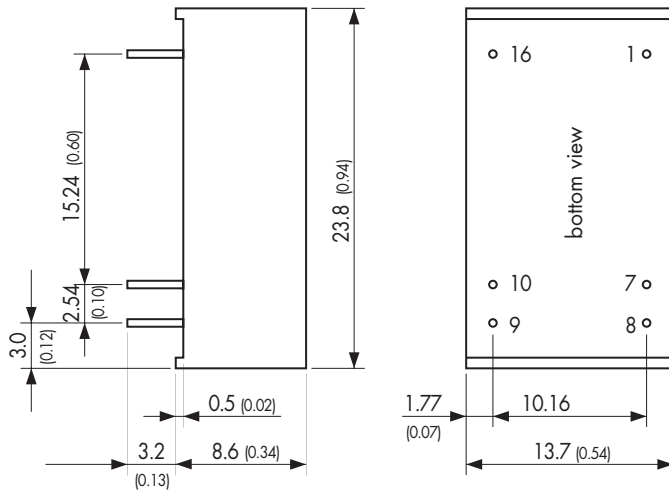
Casing material	non conductive plastic (UL 94V-0 rated)
Pin material	copper alloy with gold plated nickel subplate
Weight	5.1 g (0.18oz)
Altitude during operation	up to 5'000 m approved

Application note: www.tracopower.com/products/thi2m-application.pdf



- The component is not be used in an oxygen rich environment.
- The component is not to be used in conjunction with flammable anaesthetics and agents.
- The component has to be disposed appropriately. Please refer to local regulations (Waste Electrical and Electronic Equipment).
- A modification of the component is not allowed.

Outline Dimensions



Pin-Out		
Pin	Single	Dual
1	-Vin (GND)	-Vin (GND)
7	No con.	No con.
8	No con.	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

Dimensions in [mm], () = Inch
 Pin diameter: 0.5 ±0.05 (0.024 ±0.002)
 Tolerances: ±0.25 (±0.01)
 Pin pitch tolerances: ±0.05 (±0.002)

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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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