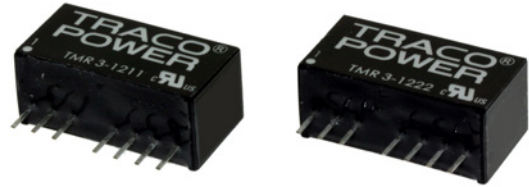


Features

- ◆ Wide 2:1 input voltage range
- ◆ Fully regulated output voltage
- ◆ Compact SIP-8 package
- ◆ Models with 1'500 VDC and 3'000 VDC I/O isolation (functional insulation)
- ◆ Small footprint
- ◆ Temperature range -40° to $+85^{\circ}\text{C}$
- ◆ High efficiency up to 85%
- ◆ Short-circuit protection
- ◆ Remote On/Off control
- ◆ 3-year product warranty



The TMR-3 series is a new family of isolated 3W dc-dc converter modules with regulated output, featuring wide 2:1 input voltage ranges. The product comes in a compact SIP-8 plastic package with a small footprint occupying only 2.0 cm² (0.3 square in.) of board space.

An excellent efficiency allows -40° to $+85^{\circ}\text{C}$ operation temperatures. Further features include remote On/Off control and continuous short circuit protection. The compact dimensions of these converters make them an ideal solution for many space critical applications in communication equipment, instrumentation and industrial electronics.

Models

| Order code | | Input voltage range | Output voltage | Output current max. | Efficiency typ. |
|--------------------|--------------------|----------------------------------|---------------------------------|---------------------|-----------------|
| 1500 VDC isolation | 3000 VDC isolation | | | | |
| TMR 3-0510 | TMR 3-0510HI | 4.5 – 9.0 VDC (5 VDC nominal) | 3.3 VDC | 700 mA | 75 % |
| TMR 3-0511 | TMR 3-0511HI | | 5 VDC | 600 mA | 79 % |
| TMR 3-0512 | TMR 3-0512HI | | 12 VDC | 250 mA | 81 % |
| TMR 3-0513 | TMR 3-0513HI | | 15 VDC | 200 mA | 82 % |
| TMR 3-0521 | TMR 3-0521HI | | ± 5 VDC | ± 300 mA | 78 % |
| TMR 3-0522 | TMR 3-0522HI | | ± 12 VDC | ± 125 mA | 81 % |
| TMR 3-0523 | TMR 3-0523HI | | ± 15 VDC | ± 100 mA | 81 % |
| TMR 3-1210 | TMR 3-1210HI | | 9 – 18 VDC (12 VDC nominal) | 3.3 VDC | 700 mA |
| TMR 3-1211 | TMR 3-1211HI | 5 VDC | | 600 mA | 81 % |
| TMR 3-1212 | TMR 3-1212HI | 12 VDC | | 250 mA | 83 % |
| TMR 3-1213 | TMR 3-1213HI | 15 VDC | | 200 mA | 83 % |
| TMR 3-1221 | TMR 3-1221HI | ± 5 VDC | | ± 300 mA | 82 % |
| TMR 3-1222 | TMR 3-1222HI | ± 12 VDC | | ± 125 mA | 83 % |
| TMR 3-1223 | TMR 3-1223HI | ± 15 VDC | | ± 100 mA | 83 % |
| TMR 3-2410 | TMR 3-2410HI | 18 – 36 VDC (24 VDC nominal) | | 3.3 VDC | 700 mA |
| TMR 3-2411 | TMR 3-2411HI | | 5 VDC | 600 mA | 82 % |
| TMR 3-2412 | TMR 3-2412HI | | 12 VDC | 250 mA | 83 % |
| TMR 3-2413 | TMR 3-2413HI | | 15 VDC | 200 mA | 84 % |
| TMR 3-2421 | TMR 3-2421HI | | ± 5 VDC | ± 300 mA | 80 % |
| TMR 3-2422 | TMR 3-2422HI | | ± 12 VDC | ± 125 mA | 83 % |
| TMR 3-2423 | TMR 3-2423HI | | ± 15 VDC | ± 100 mA | 85 % |
| TMR 3-4810 | TMR 3-4810HI | | 36 – 75 VDC (48 VDC nominal) | 3.3 VDC | 700 mA |
| TMR 3-4811 | TMR 3-4811HI | 5 VDC | | 600 mA | 79 % |
| TMR 3-4812 | TMR 3-4812HI | 12 VDC | | 250 mA | 81 % |
| TMR 3-4813 | TMR 3-4813HI | 15 VDC | | 200 mA | 82 % |
| TMR 3-4821 | TMR 3-4821HI | ± 5 VDC | | ± 300 mA | 79 % |
| TMR 3-4822 | TMR 3-4822HI | ± 12 VDC | | ± 125 mA | 82 % |
| TMR 3-4823 | TMR 3-4823HI | ± 15 VDC | | ± 100 mA | 83 % |

Input Specifications

| | |
|--|--|
| Input current at full load / at no load (nominal input voltage) | 4.5–9 Vin models: 810 mA max. / 60 mA typ. 9–18 Vin models: 330 mA max. / 30 mA typ. 18–36 Vin models: 160 mA max. / 18 mA typ. 36–75 Vin models: 85 mA max. / 12 mA typ. |
| Surge voltage (100 msec. max.) | 4.5–9 Vin models: 15 V max. 9–18 Vin models: 36 V max. 18–36 Vin models: 50 V max. 36–75 Vin models: 100 V max. |
| Input voltage variation (dv/dt) | 5 V/ms, max. (complies with ETS300 132 part 4.4) |
| Input filter | capacitor type (see application note for compliance to EN 55022 class A/B) |
| Start up time (constant resistive load) | – Power On: 30 ms typ. – Remote On: 30 ms typ. |

Output Specifications

| | |
|--|--|
| Voltage set accuracy | ±1 % max |
| Regulation | – Input variation Vin min. to Vin max.: 0.2 % max. – Load variation 5 – 100% single output models: 0.5 % max. dual output models: 1.0 % max. balanced load – Load variation 0 – 100% single output models: 1.0 % max. dual output models: 1.0 % max. balanced load – Load cross regulation 25/100%: 5.0 % max. (dual output models) |
| Minimum load | 0 % of rated max. load |
| Ripple and noise (20 MHz Bandwidth) | 50 mVpk-pk max. |
| Transient response setting time (25% load step change) | 500 µs typ. |
| Short circuit protection | indefinite, automatic recovery |
| Capacitive load | 3.3 VDC / 5 VDC output models: 3300 µF max. / 1680 µF max. 12 VDC / 15 VDC output models: 820 µF max. / 680 µF max. ±5 VDC / ±12 VDC output models: ±1000 µF max. / ±470 µF max. ±15 VDC output models: ±330 µF max. |

General Specifications

| | |
|---|---|
| Temperature ranges | – Operating: –40°C to +85°C – Case temperature: +100°C max. – Storage: –55°C to +105°C |
| Load derating | 3.3 %/K above 70°C |
| Humidity (non condensing) | 95 % rel. H max. |
| Temperature coefficient | ±0.02 %/K |
| Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign) | >4.8 Mio h |
| Isolation voltage (60 sec.) | – Input/Output: 1500 VDC with suffix -HI: 3000 VDC |
| Isolation capacitance | – Input/Output: 200 pF max. with suffix -HI: 40 pF max. |
| Isolation resistance | – Input/Output (500 VDC): >10 GOhm |
| Switching frequency | 100 kHz min. (PFM) |
| Remote On/Off | – On: open or high impedance – Off: 2...4 mA current applied via 1KOhm resistor – Off stand by input current: 2.5 mA max. |

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

General Specifications

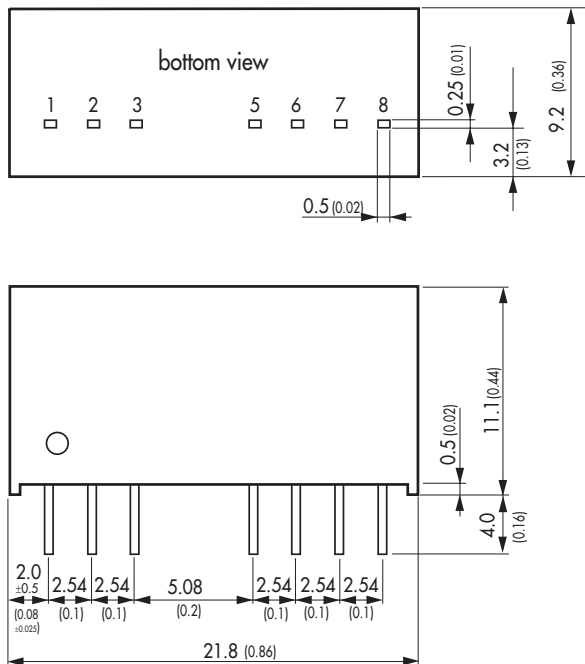
| | |
|--------------------------|--|
| Safety standards | IEC/EN 60950-1, UL 60950-1 |
| Safety approvals | – UL/cUL www.ul.com > UL File no.: e188913 |
| Environmental compliance | – Reach – RoHS www.tracopower.com/products/tmr3-reach.pdf RoHS directive 2011/65/EU |

Physical Specifications

| | |
|------------------|----------------------------|
| Casing material | non-conductive plastic |
| Potting material | silicone, (UL 94V-0 rated) |
| Weight | 4.8 g (0.17oz) |

Application note: www.tracopower.com/products/tmr3-application.pdf

Outline Dimensions mm (inches)



| Pin-Out | | |
|---------|---------------|---------------|
| Pin | Single | Dual |
| 1 | -Vin (GND) | -Vin (GND) |
| 2 | +Vin (Vcc) | +Vin (Vcc) |
| 3 | Remote On/Off | Remote On/Off |
| 5* | No function | No function |
| 6 | +Vout | +Vout |
| 7 | -Vout | Common |
| 8 | No function | -Vout |

*No pin 5 with HI version

Dimensions in [mm], () = Inch
Tolerances: ±0.5 (±0.02)
Pin pitch tolerances: ±0.25 (±0.01)

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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