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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Features

- ◆ Wide 4:1 input voltage range
- ◆ Compact SIP-8 package
- ◆ Cost optimized design
- ◆ Temperature range -40°C to $+85^{\circ}\text{C}$
- ◆ I/O isolation 1500 VDC
- ◆ Remote On/Off control
- ◆ 3-year product warranty



The TMR-3WIE series is a family of isolated 3 W dc-dc converter modules with regulated output, featuring wide 4:1 input voltage ranges. The product comes in a compact SIP-8 plastic package with small footprint occupying only 2.0 cm² (0.3 square in.) of board space.

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

Models

| Order code | Input voltage range | Output voltage | Output current max. | Efficiency typ. |
|---------------|----------------------------------|----------------|---------------------|-----------------|
| TMR 3-1210WIE | 4.5 – 18 VDC (12 VDC nominal) | 3.3 VDC | 700 mA | 74 % |
| TMR 3-1211WIE | | 5.0 VDC | 600 mA | 78 % |
| TMR 3-1212WIE | | 12 VDC | 250 mA | 80 % |
| TMR 3-1213WIE | | 15 VDC | 200 mA | 80 % |
| TMR 3-1221WIE | | ± 5.0 VDC | ± 300 mA | 70 % |
| TMR 3-1222WIE | | ± 12 VDC | ± 125 mA | 80 % |
| TMR 3-1223WIE | | ± 15 VDC | ± 100 mA | 80 % |
| TMR 3-2410WIE | 9 – 36 VDC (24 VDC nominal) | 3.3 VDC | 700 mA | 75 % |
| TMR 3-2411WIE | | 5.0 VDC | 600 mA | 80 % |
| TMR 3-2412WIE | | 12 VDC | 250 mA | 81 % |
| TMR 3-2413WIE | | 15 VDC | 200 mA | 81 % |
| TMR 3-2421WIE | | ± 5.0 VDC | ± 300 mA | 79 % |
| TMR 3-2422WIE | | ± 12 VDC | ± 125 mA | 80 % |
| TMR 3-2423WIE | | ± 15 VDC | ± 100 mA | 81 % |
| TMR 3-4810WIE | 18 – 75 VDC (48 VDC nominal) | 3.3 VDC | 700 mA | 74 % |
| TMR 3-4811WIE | | 5.0 VDC | 600 mA | 79 % |
| TMR 3-4812WIE | | 12 VDC | 250 mA | 79 % |
| TMR 3-4813WIE | | 15 VDC | 200 mA | 79 % |
| TMR 3-4821WIE | | ± 5.0 VDC | ± 300 mA | 79 % |
| TMR 3-4822WIE | | ± 12 VDC | ± 125 mA | 79 % |
| TMR 3-4823WIE | | ± 15 VDC | ± 100 mA | 80 % |

Input Specifications

| | |
|--|---|
| Input current at no load (nominal input voltage) | 12 V models: 60 mA typ. 24 V models: 25 mA typ. 48 V models: 15 mA typ. |
| Surge voltage (1000 msec. max.) | 12 V models: 25 V max. 24 V models: 50 V max. 48 V models: 100 V max. |
| Start-up voltage / under voltage lockout | 12 V models: 4.5 VDC / 4 VDC or lower 24 V models: 9 VDC / 8 VDC or lower 48 V models: 18 VDC / 16 VDC or lower long term operation at undervoltage will damage the converter! |
| max. reverse polarity input current | 1.0 A |
| Recommended Input Fuse (Slow Blow) | 12 V models: 1500 mA 24 V models: 700 mA 48 V models: 350 mA |
| Conducted noise (input) | EN 55022 level A, FCC part 15, level A with external components (see application note) |

Output Specifications

| | | |
|--|--|--|
| Voltage set accuracy | – Single Output Models – Dual Output Models | ±1 % max. ±2 % max. (balanced load) |
| Regulation | – Input variation Vin min. to Vin max. – Load variation 25 – 100% | 0.5 % max. 1.0 % max. |
| Minimum load | | 25 % of rated max. load (operation at lower load condition is safe but a higher output ripple will be experienced) |
| Temperature coefficient | | 0.02 %/K |
| Ripple and noise (20 MHz bandwidth) | | 75 mVp-p max. |
| Transient response setting time (25% load step change) | | 500 µs max. |
| Short circuit protection | | continuous, automatic recovery |
| Capacitive load | 3.3 VDC models: 5 VDC models: 12 VDC models: 15 VDC models: ±5 VDC models: ±12 VDC models: ±15 VDC models: | 1'760 µF max. 1'000 µF max. 170 µF max. 110 µF max. 470 µF max. (each output) 100 µF max. (each output) 47 µF max. (each output) |

General Specifications

| | | |
|---|--|--|
| Temperature ranges | – Operating – Case temperature – Storage | –40°C to +85°C (with derating) +105°C max. –55°C to +125°C |
| Load derating | | 3.3 %/K above +70°C |
| Humidity (non condensing) | | 95 % rel. H max. |
| Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign) | | > 800'000 h |
| Isolation voltage (60 sec.) | – Input/Output | 1'500 VDC |
| Isolation capacitance | – Input/Output | 200 pF typ. |
| Isolation resistance | – Input/Output (500 VDC) | >1 GOhm |

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

General Specifications

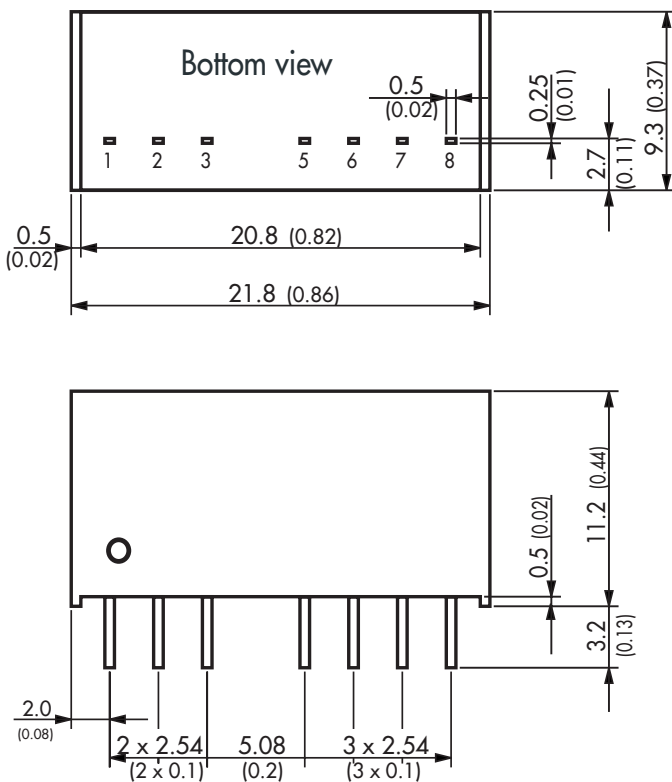
| | | |
|---------------------|---|--|
| Switching frequency | | 350 kHz typ. (PFM) |
| Remote On/Off | <ul style="list-style-type: none"> - On: < 0.6 VDC or open circuit - Off: 2.7 to 15 VDC (ref. to -Vin) - Off standby current: 2.5 mA max. - Off control input current: 1 mA max. | |
| Safety standards | | CAN/CSA-C22.2 No 60950-1-07 Incl. AM1 (2011) ANSI/UL Std No 60950-1, 2nd Ed. Incl. AM1 (2011) IEC 60950-1:2005 (2nd Edition); +A1:2009 www.tracopower.com/overview/tmr3wie |
| | - Certification documents | |

Physical Specifications

| | | |
|--------------------------|---|---|
| Casing material | | non-conductive plastic (UL 94V-0 rated) |
| Potting material | | Silicon, (UL 94V-0 rated) |
| Weight | | 4.8 g (0.17 oz) |
| Soldering temperature | | max. 260°C / 10 sec. |
| Environmental compliance | <ul style="list-style-type: none"> - Reach - RoHS | www.tracopower.com/info/reach-declaration.pdf RoHS directive 2011/65/EU |

Supporting documents: www.tracopower.com/overview/tmr3wie

Outline Dimensions



| Pinout | | |
|--------|---------------|---------------|
| Pin | single output | dual output |
| 1 | -Vin (GND) | -Vin (GND) |
| 2 | +Vin (Vcc) | +Vin (Vcc) |
| 3 | Remote On/Off | Remote On/Off |
| 5 | ntc. | ntc. |
| 6 | +Vout | +Vout |
| 7 | -Vout | Common |
| 8 | ntc. | -Vout |

ntc. = Not to connect

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