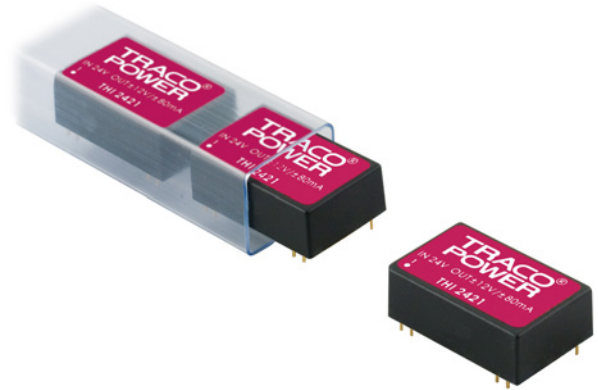


Features

- ◆ DIP-24 plastic package
- ◆ I/O isolation voltage 2500 VACrms
- ◆ Supplementary insulation rated for working voltage up to 250 VAC
- ◆ Regulated output
- ◆ Operating temp. range -40°C to +85°C
- ◆ Low coupling capacity
- ◆ Short circuit protection
- ◆ 3-years product warranty



The THI 2 series is a family of dc/dc converter with very high I/O isolation specification. They offer a cost effective solution for all industrial, telecom and medical applications where a supplementary insulation is required. SMD technology and a 100 % production test of the safety barrier ensure a very high reliability of this product.

Models

| Order code | Input voltage range | Output voltage | Output current max. | Efficiency typ. |
|------------|---------------------|----------------|---------------------|-----------------|
| THI 0511 | 5.0 VDC ± 10% | 5 VDC | 400 mA | 62 % |
| THI 0512 | | 12 VDC | 165 mA | 63 % |
| THI 0513 | | 15 VDC | 130 mA | 64 % |
| THI 0520 | | ±5 VDC | ±100 mA | 42 % |
| THI 0521 | | ±12 VDC | ±80 mA | 57 % |
| THI 0522 | | ±15 VDC | ±65 mA | 57 % |
| THI 1211 | 12.0 VDC ± 10% | 5 VDC | 400 mA | 62 % |
| THI 1212 | | 12 VDC | 165 mA | 63 % |
| THI 1213 | | 15 VDC | 130 mA | 64 % |
| THI 1220 | | ±5 VDC | ±100 mA | 45 % |
| THI 1221 | | ±12 VDC | ±80 mA | 59 % |
| THI 1222 | | ±15 VDC | ±65 mA | 59 % |
| THI 2411 | 24 VDC ± 10% | 5 VDC | 400 mA | 62 % |
| THI 2412 | | 12 VDC | 165 mA | 63 % |
| THI 2413 | | 15 VDC | 130 mA | 64 % |
| THI 2420 | | ±5 VDC | ±100 mA | 45 % |
| THI 2421 | | ±12 VDC | ±80 mA | 58 % |
| THI 2422 | | ±15 VDC | ±65 mA | 58 % |

Input Specifications

| | |
|-----------------------------------|--|
| Input current no load / full load | 5 Vin models: 100 mA / 660 mA typ. 12 Vin models: 50 mA / 280 mA typ. 24 Vin models: 30 mA / 140 mA typ. |
| Surge voltage (1 sec. max.) | 5 Vin models: 7.5 V max. 12 Vin models: 15 V max. 24 Vin models: 30 V max. |
| Input filter | Pi-Filter |

Output Specifications

| | |
|--------------------------------------|--|
| Voltage set accuracy | ±3 % |
| Voltage balance (dual output models) | 3 % max. |
| Regulation | – Input variation 0.5 % – Load variation 10–100% 1.0 % max. |
| Ripple and noise (20 MHz Bandwidth) | 50 mVpk-pk max. |
| Temperature coefficient | ±0.02 %/K |
| Current limitation | >120 % constant current |
| Short circuit protection | continuous (automatic recovery) |
| Capacitive load | single output models: 680 µF max. dual output models: 270 µF max. (each output) |

General Specifications

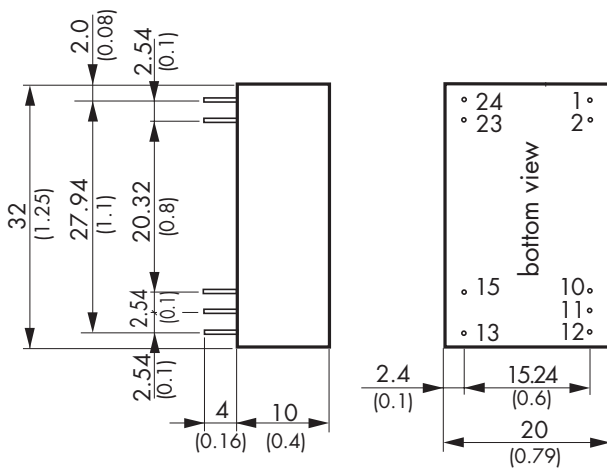
| | |
|--|--|
| Temperature ranges | – Operating –40°C to +85°C – Case +95°C max. – Storage –40°C to +125°C |
| Derating | 3 %/K above 70°C |
| Humidity (non condensing) | 95 % rel. H max. |
| Reliability, calculated MTBF (MIL-HDBK-217F, at 25°C, ground benign) | >600'000 h |
| Isolation voltage | – I/O Isolation voltage 2'500 VACrms (rated for 250VAC) – Isolation test voltage (1 sec.) 6'000 Vpk |
| Isolation capacitance | – Input/Output 20 pF typ. |
| Isolation resistance | – Input/Output >10 Gohm |
| Switching frequency | 25 – 80 kHz (PFM) |

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

General Specifications

| | |
|-----------------------|--------------------------|
| Casing material | plastic (UL 94V-0 rated) |
| Weight | 12.4 g (0.44 oz) |
| Soldering temperature | max. 265°C / 10 sec |

Outline Dimensions



| Pin-Out | | |
|---------|------------|------------|
| Pin | Single | Dual |
| 1 | +Vin (VCC) | +Vin (VCC) |
| 2 | +Vin (VCC) | +Vin (VCC) |
| 10 | No pin | Common |
| 11 | No pin | Common |
| 12 | -Vout | No pin. |
| 13 | +Vout | -Vout |
| 15 | No pin | +Vout |
| 23 | -Vin (GND) | -Vin (GND) |
| 24 | -Vin (GND) | -Vin (GND) |

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)

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