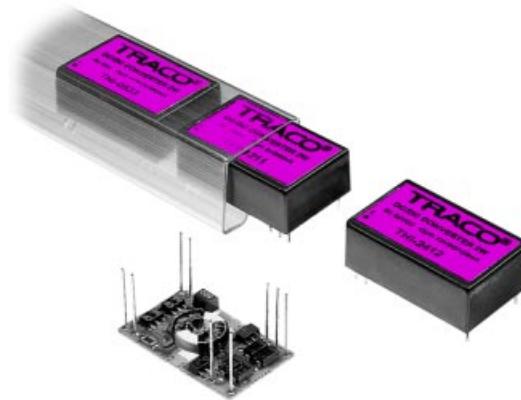


Features

- I/O-Isolation Test Voltage 6000Vpk
- Supplementary Insulation to meet IEC/EN 60950 and IEC/EN 60601-1 Safety Standards
- Agency Safety Approvals
- Full SMD-Design with Ceramic Capacitors
- Regulated Single- and Dual Output Models
- Low Coupling Capacity
- DIL-24 Plastic Package
- 3 Year Product Warranty



The THI series is a family of dc/dc-converter with very high I/O-Isolation specification. They are certified according to EN 60950 and IEC-60601-1 safety standards and 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

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

Input Specifications

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

Output Specifications

Voltage set accuracy		± 3 %
Voltage balance (dual output models)		± 3 % max.
Regulation	– Input variation Vin min. to Vin max. – Load variation 10 – 100 %:	± 0.5 % max. ± 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		indefinite (automatic recovery)
Capacitive load	– Single output models – Dual output models	680 µF max. 270 µF max.

Isolation /Safety

Isolation voltage	– I/O Isolation voltage – Isolation test voltage (1 sec.)	3'000 VRMS (rated for 250VAC working voltage) 6'000 VDC
Isolation capacity	Input/Output	20 pF typ.
Isolation resistance	Input/Output	>10'000 M ohm
Safety standards		EN 60950 IEC/EN 60601-1 rated for 250VAC
Safety approvals		test report by BSI (British Standard Institute)

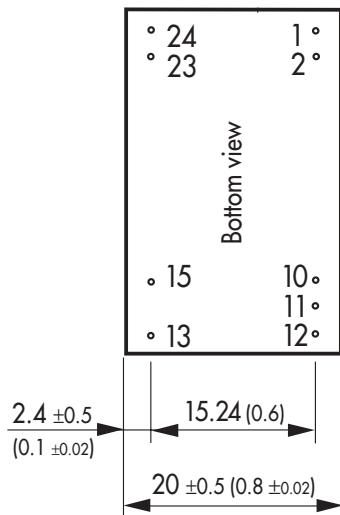
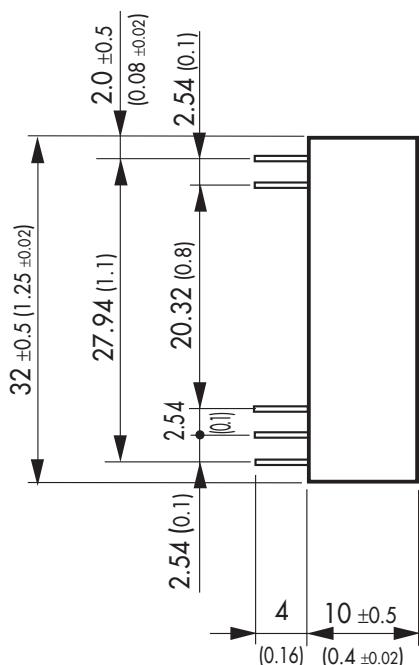
General Specifications

Temperature ranges	– Operating – Case – Storage	-40 °C ... +75 °C + 95 °C -40 °C ... +125 °C
Derating above 60°C		3% / K
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		> 600'000 h @ 25 °C
Switching frequency		25 – 80 kHz (depending on load)

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

Physical Specifications

Case material	non conductive black plastic (UL 94V-0 rated)
Weight	12 g (0.42 oz)
Soldering temperature	max. 260°C / 10 sec

Outline Dimensions mm (inches)

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)

() = inches

Pins ø 0.5 mm (0.02)

Specifications can be changed without notice