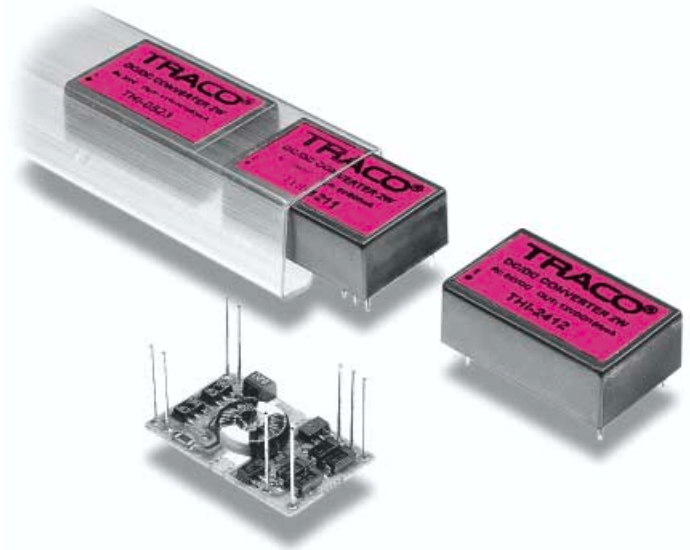


Features

- I/O-Isolation Test Voltage 6000V
- Supplementary Insulation to meet IEC/EN 60950 and IEC/EN 60601-1 Safety Standards
- Agency Safety Approvals
- SMD-Technology with Ceramic Capacitors
- Regulated Single- and Dual Output Models
- Low Coupling Capacity
- 24-Pin DIP Plastic Package
- 2 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 12 VDC 15 VDC ± 5 VDC ±12 VDC ±15 VDC	400 mA 165 mA 130 mA ±100 mA ± 80 mA ± 65 mA	62 % 63 % 64 % 42 % 57 % 57 %
THI 1211 THI 1212 THI 1213 THI 1220 THI 1221 THI 1222	12 VDC ± 10%	5 VDC 12 VDC 15 VDC ± 5 VDC ±12 VDC ±15 VDC	400 mA 165 mA 130 mA ±100 mA ± 80 mA ± 65 mA	62 % 63 % 64 % 45 % 59 % 59 %
THI 2411 THI 2412 THI 2413 THI 2420 THI 2421 THI 2422	24 VDC ± 10%	5 VDC 12 VDC 15 VDC ± 5 VDC ±12 VDC ±15 VDC	400 mA 165 mA 130 mA ±100 mA ± 80 mA ± 65 mA	62 % 63 % 64 % 45 % 58 % 58 %

Input Specifications

Input current no load	5 Vin models:	100 mA typ.
	12 Vin models:	50 mA typ.
	24 Vin models:	30 mA typ.
Input current no load	5 Vin models:	660 mA typ.
	12 Vin models:	280 mA typ.
	24 Vin models:	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 Vin min. to Vin max.	± 0.5 % max.
	- Load variation 10 – 100 %:	± 1.0 % max.
Ripple and noise (20 MHz Bandwidth)		50 mVpk-pk max.
Temperature coefficient		± 0.02 % / °C
Current limitation		> 120 % constant current
Short circuit protection		indefinite (automatic recovery)
Capacitive load	- Single output models	680 µF max.
	- Dual output models	270 µF max.

Isolation /Safety

Isolation voltage	- Rated isolation voltage	3'000 Vrms (for 250VAC working voltage)
	- Isolation test voltage (1 sec.)	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

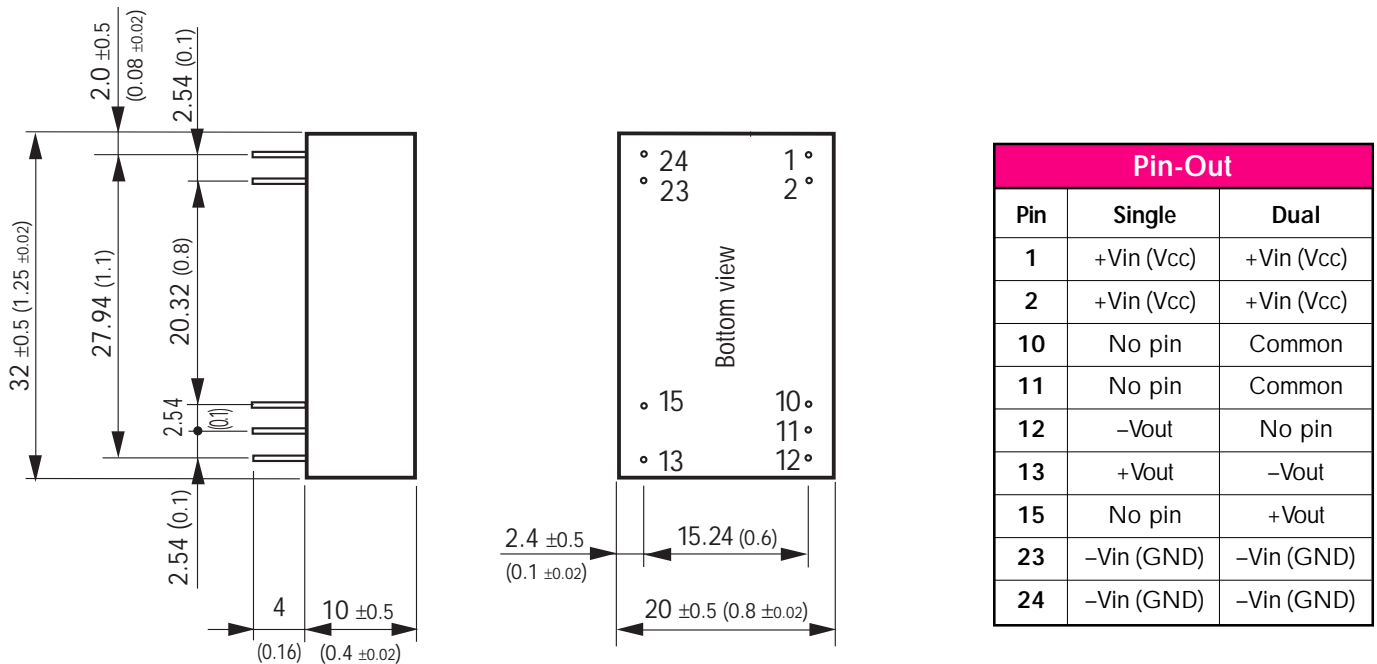
Temperature ranges	- Operating	- 25 °C ... +60 °C
	- Case	+ 95 °C
	- Storage	- 40 °C ... +125 °C
Derating above 60°C		3%
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		> 600'000 h @ 25 °C
Switching frequency		25 – 80 kHz (depending on load)

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 (flammability to UL 94V-0)
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