

Features

- ◆ Supplementary and reinforced insulation
- ◆ I/O isolation 3000 VACrms rated for 300 Vrms working voltage
- ◆ Medical safety to UL 60601-1 and IEC/EN 60601-1 3rd edition, 2 x MOOP
- ◆ Industrial safety to IEC/EN/UL 60950-1
- ◆ Isolation test voltage 6000 Vpk
- ◆ Wide 2:1 input voltage ranges
- ◆ Extended operating temperature range -40°C to 71°C max.
- ◆ Input filter meets EN55022, class A
- ◆ Continuous short-circuit protection
- ◆ High reliability
- ◆ 3-year product warranty



The THB-3 series is a range of high performance, regulated DC/DC converters in a DIP-24 plastic package. A reinforced I/O-isolation system and a wide 2:1 input voltage range make this product the best choice for many demanding applications like transportation systems, industrial controls, medical equipments, instrumentations, everywhere where high basic-, supplementary- or reinforced insulation is required to meet requested safety standards.

A high efficiency allows safe operation in a temperature range of -40°C to +71°C. Other features of this product are over voltage protection and internal EMI-input filter to meet EN 55022, class A without additional components. Full SMD-design with exclusive use of ceramic capacitors ensure a very high reliability and a long product lifetime.

Models

Order code	Input voltage range	Output voltage	Output current max.	Efficiency typ.
THB 3-0511	4.5 – 9 VDC (5 VDC nominal)	5 VDC	600 mA	70 %
THB 3-0512		12 VDC	250 mA	75 %
THB 3-0515		24 VDC	125 mA	76 %
THB 3-0522		±12 VDC	±125 mA	75 %
THB 3-0523		±15 VDC	±100 mA	75 %
THB 3-1211	9 – 18 VDC (12 VDC nominal)	5 VDC	600 mA	74 %
THB 3-1212		12 VDC	250 mA	80 %
THB 3-1215		24 VDC	125 mA	81 %
THB 3-1222		±12 VDC	±125 mA	80 %
THB 3-1223		±15 VDC	±100 mA	80 %
THB 3-2411	18 – 36 VDC (24 VDC nominal)	5 VDC	600 mA	78 %
THB 3-2412		12 VDC	250 mA	83 %
THB 3-2415		24 VDC	125 mA	84 %
THB 3-2422		±12 VDC	±125 mA	83 %
THB 3-2423		±15 VDC	±100 mA	83 %
THB 3-4811	36 – 75 VDC (48 VDC nominal)	5 VDC	600 mA	78 %
THB 3-4812		12 VDC	250 mA	83 %
THB 3-4815		24 VDC	125 mA	84 %
THB 3-4822		±12 VDC	±125 mA	83 %
THB 3-4823		±15 VDC	±100 mA	83 %

General Specifications

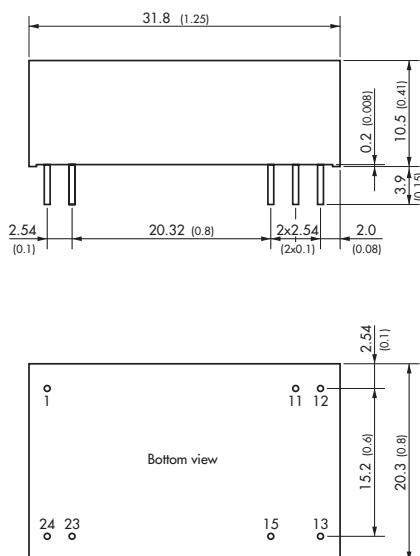
Safety approvals	<ul style="list-style-type: none"> - CB test certificate according IEC 60950-1 - CB test certificate according IEC 60601-1(3rd edition) - CSA certificate according UL 60950-1 - CSA certificate according UL 60601-1 - UL certificate according UL 60950-1 	www.tracopower.com/products/thb3-cb60950.pdf www.tracopower.com/products/thb3-cb60601.pdf www.tracopower.com/products/thb3-csa60950.pdf www.tracopower.com/products/thb3-csa60601.pdf www.ul.com File E188913, copy: e188913qqgq2.pdf
Temperature ranges	<ul style="list-style-type: none"> - Operating - Casing - Storage 	-40°C to +71°C +95°C max. -40°C to +125°C
Derating		3.0 %/K above 60°C
Humidity (non condensing)		95 % rel H max.
Temperature coefficient		±0.02 %/K typ.
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		>1 Mio. h
Switching frequency		150 kHz typ. (puls width modulation)
Casing material		non conductive plastic (UL 94V-0-rated)
Potting material		Silicon TSE 3331 (UL 94V-0-rated)
Weight		16.2 g (0.57 oz)
Soldering temperature		max. 265°C / 10 sec.
Altitude during operation		up to 5'000 m (16'400 ft) approved
Environmental compliance	<ul style="list-style-type: none"> - Reach - RoHS 	www.tracopower.com/products/thb3-reach.pdf according RoHS directive 2011/65/EU

Application note : www.tracopower.com/products/thb3-application.pdf



- The component is not be used in an oxygen rich environment.
- The component is not to be used in conjunction with flammable anaesthetics and agents.
- The component has to be disposed appropriately. Please refer to local regulations (Waste Electrical and Electronic Equipment).
- A modification of the component is not allowed.

Outline Dimensions



Pin-Out		
Pin	Single	Dual
1	+Vin (Vcc)	+Vin (Vcc)
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 $\varnothing 0.6 \pm 0.05$ (0.024 \pm 0.002)
 Tolerances ± 0.25 (± 0.001)
 Pin pitch tolerances ± 0.13 (± 0.005)

Specifications can be changed without notice!. Make sure you are using the latest documentation, downloadable at www.tracopower.com