



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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!



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Features

- ◆ Supplementary and reinforced insulation
- ◆ I/O isolation 4800 VACrms rated for 1000 Vrms (1410 Vpk) working voltage
- ◆ Medical safety to ES 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 85°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 +85°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

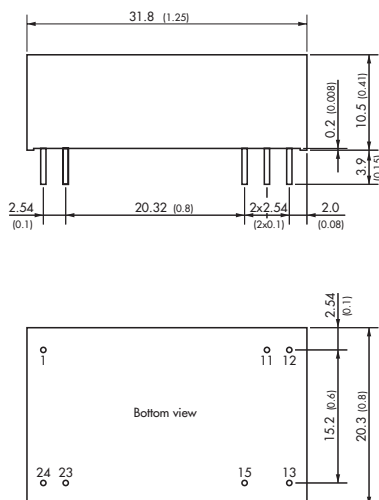
Temperature ranges	– Operating – Casing – Storage	–40°C to +85°C +95°C max. –50°C to +125°C
Derating		3.3 %/K above 70°C
Humidity (non condensing)		95 % rel H max.
Temperature coefficient		±0.02 %/K typ.
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		>1 Mio. h
Switching frequency		150 kHz typ. (puls width modulation)
Casing material		non conductive plastic (UL 94V-0-rated)
Potting material		Silicone TSE 3331 (UL 94V-0-rated)
Pin material		Copper alloy with goldplated nickel subplate
Weight		13.0 g (0.46 oz)
Soldering temperature		max. 265°C / 10 sec.
Altitude during operation		up to 5'000 m (16'400 ft) approved
Environmental compliance	– Reach – RoHS	www.tracopower.com/products/reach-declaration.pdf according RoHS directive 2011/65/EU

Supporting documents : www.tracopower.com/overview/thb3



- 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 ± 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