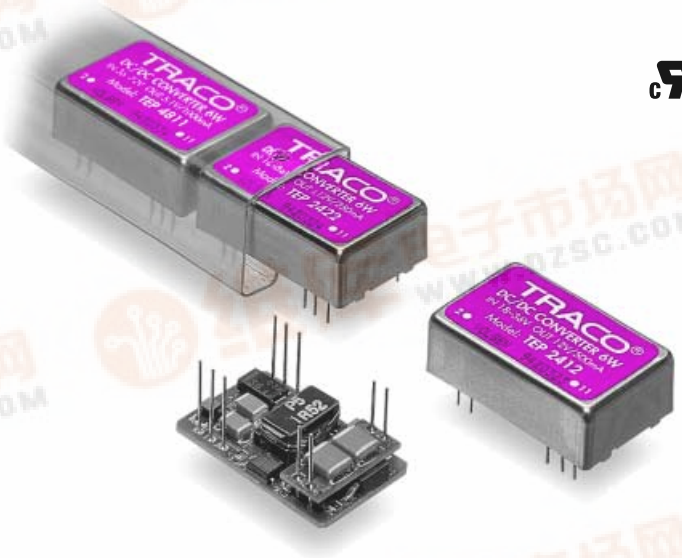
TRACO POWER

DC/DC Converter

TEP Series 6 Watt

Features

- Wide 2:1 Input Range
- Full SMD-Design
- High Power Density
- High Efficiency up to 84%
- No Derating up to +75°C
- Regulated Outputs
- I/O-Isolation 1'500 VDC
- Indefinite Short-Circuit Protection
- Input Filter meets EN 55022, Class A and FCC, Level A without external Components
- 24-pin DIP with industry Standard Pinout
- High Reliability, MTBF >1 Mio. h
- 2 Year Product Warranty



The TEP series are high performance, isolated DC/DC-converters with a very high power density. They offer the designer a ideal solution in space critical on-board level power distribution applications. SMD-design with exclusive use of ceramic capacitors guarantees very high reliability. An automated production with 100% parameter test ensures the high quality standard of this product.

Models

Ordercode	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TEP 2411	18 – 36 VDC	5.1 VDC	1000 mA	80 %
TEP 2412		12 VDC	500 mA	83 %
TEP 2421		± 5 VDC	± 500 mA	80 %
TEP 2422		± 12 VDC	± 250 mA	83 %
TEP 2423		± 15 VDC	± 200 mA	83 %
TEP 4811	36 – 72 VDC	5.1 VDC	1000 mA	81 %
TEP 4812		12 VDC	500 mA	84 %
TEP 4821		± 5 VDC	± 500 mA	82 %
TEP 4822		± 12 VDC	± 250 mA	84 %
TEP 4823		± 15 VDC	± 200 mA	84 %

Input Specifications

Input current (no load)	24 Vin single output models	16 mA typ.
	24 Vin dual output models	20 mA typ.
	48 Vin single output models	7 mA typ.
	48 Vin dual output models	10 mA typ.
Input current (full load)	24 Vin; 5.1 Vout models	250mA typ.
	24 Vin; other output models	290mA typ.
	48 Vin; 5.1 Vout models	120mA typ.
	48 Vin; other output models	140mA typ.
Start-up voltage / under voltage shut down	24 Vin models	16.5 VDC / 16 VDC
	48 Vin models	32.5 VDC / 32 VDC
Surge voltage (1 sec. max.)	24 Vin models	t.b.a.
	48 Vin models	t.b.a.
Conducted noise (input)		EN 55022 level A, FCC part 15, level A

Output Specifications

Voltage set accuracy		± 3 %
Regulation	– Input variation Vin min. to Vin max.	± 0.5 % max.
	– Load variation 10 – 100 %	
	– single output models	± 1 % max.
	– dual output models balanced load	± 2 % max.
	– dual output models unbalanced load	± 3 % max.
Ripple and noise (20 MHz Bandwidth)		60 mVpk-pk max.
Temperature coefficient		± 0.05 % / °C
Output current limitation		>110 % of Iout max. contsnat current
Short circuit protection		constant current, indefinte
Capacitive load	– single output models	10'000 µF max.
	– dual output models	10'000 µF max.

General Specifications

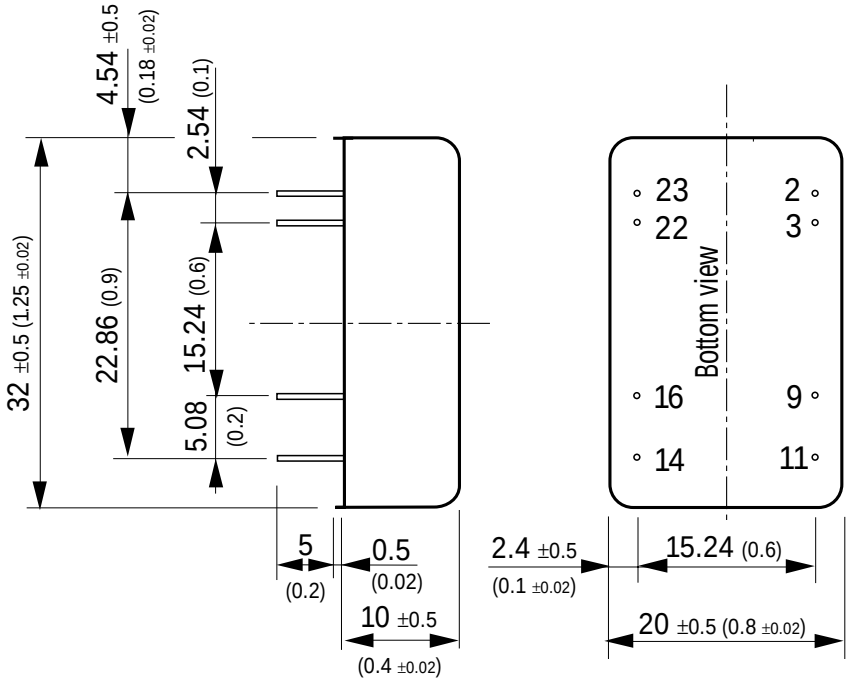
Temperature ranges	– Operating	– 25 °C ... + 75 °C (no derating)
	– Case temperature	+ 95 °C max.
	– Storage	– 40 °C ... + 115 °C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		>1 Mio. h @ + 25 °C
Isolation voltage	Input / Output	1'500 VDC
Isolation capacity	Input / Output	2200 pF typ
Isolation resistance	Input / Output (500 VDC)	> 1'000 M Ohm
Switching frequency		325 kHz typ. (Pulse frequency modulation PFM)
Safety standards		UL 1950 , IEC 60950, EN 60950 Compliance up to 60 VDC input voltage (SELV limit)
Safety approval		UL / cUL File E188913

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

Physical Specifications

Case material	Steel chrome-nickel plated
Potting material	Silicon rubber TSE (flammability to UL 94V-0)
Weight	16 g (0.56 oz)
Soldering temperature	max. 260 °C / 10 sec.

Outline Dimensions mm (inches)



Pin diameter ø 0.5 ±0.05 (0.02 ±0.002)
Tolerances ±0.5 (0.02)

Pin-Out

Pin	Single	Dual
2	–Vin (GND)	–Vin (GND)
3	–Vin (GND)	–Vin (GND)
9	No pin	Common
11	No function	–Vout
14	+Vout	+Vout
16	–Vout	Common
22	+Vin (Vcc)	+Vin (Vcc)
23	+Vin (Vcc)	+Vin (Vcc)

Specifications can be changed without notice

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