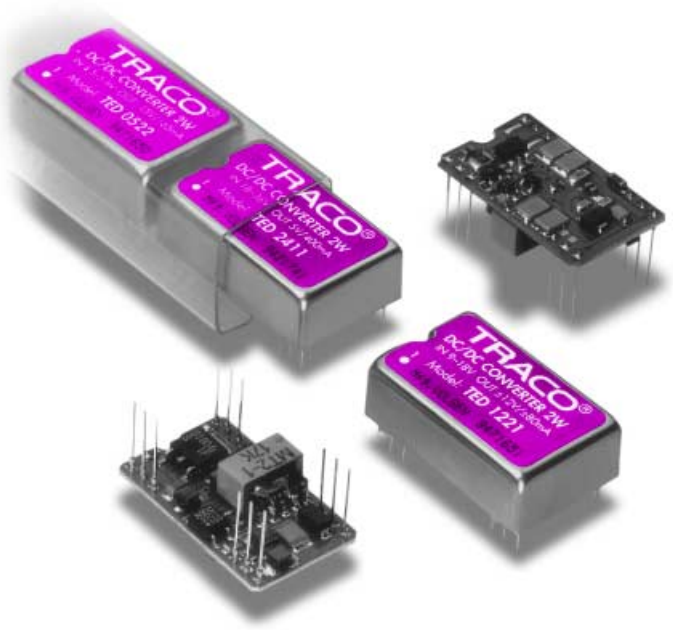
DC/DC Converter

TED Series 2 Watt

Features

- Full SMD design with Ceramic Capacitors
- Wide 2:1 Input range
- High Efficiency
- Short Circuit Protection
- Dual Output Models with galvanic isolated Outputs
- Metal Case, 24–Pin DIP
- 2 Year Product Warranty



The TED-series are high performance, isolated DC/DC-converters with wide 2 :1 input range. They are ideally suited for distributed power systems in telecommunications, industrial electronics and test equipment. Full SMT-design with exclusive use of ceramic chip-capacitors guarantees very high reliability with a calculated MTBF of over 1Mil.h. A highly automated production with 100% parameter test of each converter ensures the high quality standard of this product.

Models

Ordercode	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TED 0511	4.5 – 5.5 VDC	5 VDC	400 mA	62 %
TED 0512		12 VDC	160 mA	63 %
TED 0514		24 VDC	80 mA	42 %
TED 0521		±12 VDC	± 80 mA	57 %
TED 0522		±15 VDC	± 65 mA	57 %
TED 1211	9 – 18 VDC	5 VDC	400 mA	62 %
TED 1212		12 VDC	160 mA	63 %
TED 1214		24 VDC	80 mA	64 %
TED 1221		±12 VDC	± 80 mA	59 %
TED 1222		±15 VDC	± 65 mA	59 %
TED 2411	18 – 36 VDC	5 VDC	400 mA	62 %
TED 2412		12 VDC	160 mA	63 %
TED 2414		24 VDC	80 mA	64 %
TED 2421		±12 VDC	± 80 mA	58 %
TED 2422		±15 VDC	± 65 mA	58 %

Input Specifications

Input current no load	5 Vin models:	140 mA typ.
	12 Vin models:	25 mA typ.
	24 Vin models:	15 mA typ.
Input current full load	5 Vin models:	650 mA typ.
	12 Vin models:	255 mA typ.
	24 Vin models:	125 mA typ.
Input filter		Pi-Filter

Output Specifications

Voltage set accuracy		± 2 %
Regulation	– Input variation Vin min. to Vin max.	± 0.5 % max.
	– Load variation 10 – 90 %: single output:	± 1.0 % max.
	dual output:	± 2.0 % max.
Ripple and noise (20 MHz Bandwidth)		80 mVpk-pk max.
Temperature coefficient		± 0.05 % / °C
Short circuit protection		continuous
Capacitive load	– Single output models	2200 µF max.
	– Dual output models	2200 µF max.

General Specifications

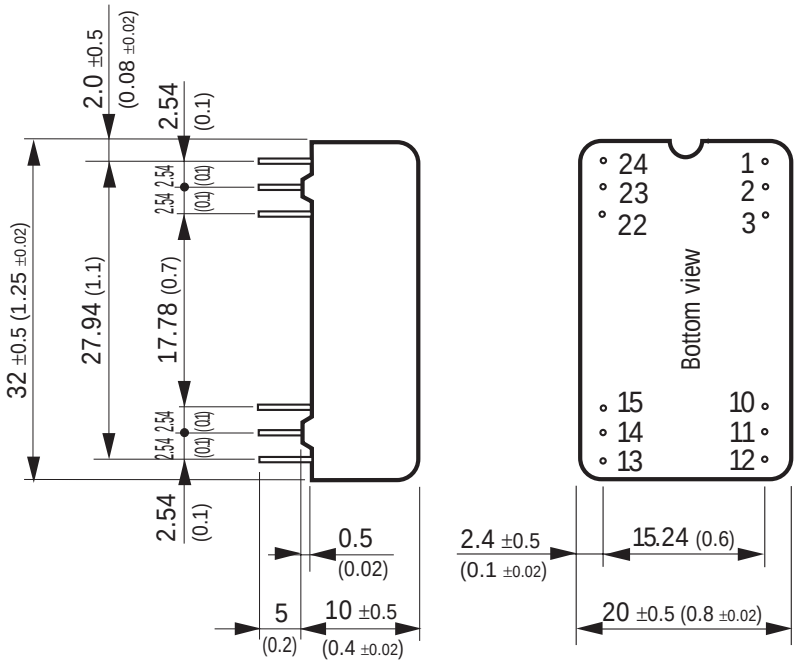
Temperature ranges	– Operating	– 25 °C ... +75 °C
	– Case	+ 95 °C
	– Storage	– 40 °C ... +115 °C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		>1'000'000 h @ 25 °C
Isolation voltage	– Input / Output	500 VDC
	– Input / Case	500 VDC
	– Output / Case	500 VDC
	– Output / Output	500 VDC (dual output)
Isolation capacity	– Input / Output	470 pF typ.
Isolation resistance	– Input / Output	>1'000 M Ohm
Switching frequency		20 – 75 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	Steel nickel-plated
Potting material	Silicon rubber TSE (UL 94V-O)
Weight	14 g (0.49 oz)
Soldering temperature	max. 260°C / 10 sec

Outline Dimensions mm (inches)



Pin-Out		
Pin	**Single**	**Dual**
1	+Vin (Vcc)	+Vin (Vcc)
2	No function	–Vout 2
3	No function	+Vout 2
10	–Vout	–Vout 1
11	+Vout	+Vout 1
12	–Vin (GND)	–Vin (GND)
13	–Vin (GND)	–Vin (GND)
14	+Vout	+Vout 1
15	–Vout	–Vout 1
22	No function	+Vout 2
23	No function	–Vout 2
24	+Vin (Vcc)	+Vin (Vcc)

Pin ø 0.5 (0.02)

Tolerances ±0.5 (0.01)

Specifications can be changed without notice

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