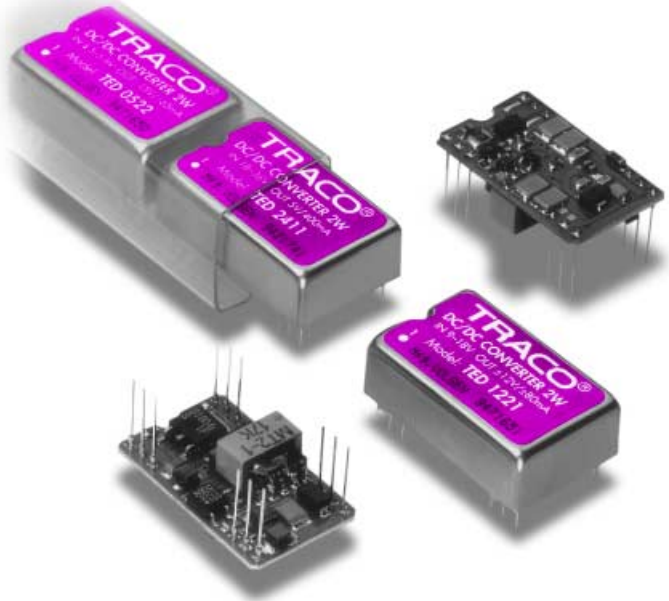


Features

- 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 TED 0512 TED 0514 TED 0521 TED 0522	4.5 – 5.5 VDC	5 VDC 12 VDC 24 VDC ±12 VDC ±15 VDC	400 mA 160 mA 80 mA ± 80 mA ± 65 mA	62 % 63 % 42 % 57 % 57 %
TED 1211 TED 1212 TED 1214 TED 1221 TED 1222	9 – 18 VDC	5 VDC 12 VDC 24 VDC ±12 VDC ±15 VDC	400 mA 160 mA 80 mA ± 80 mA ± 65 mA	62 % 63 % 64 % 59 % 59 %
TED 2411 TED 2412 TED 2414 TED 2421 TED 2422	18 – 36 VDC	5 VDC 12 VDC 24 VDC ±12 VDC ±15 VDC	400 mA 160 mA 80 mA ± 80 mA ± 65 mA	62 % 63 % 64 % 58 % 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

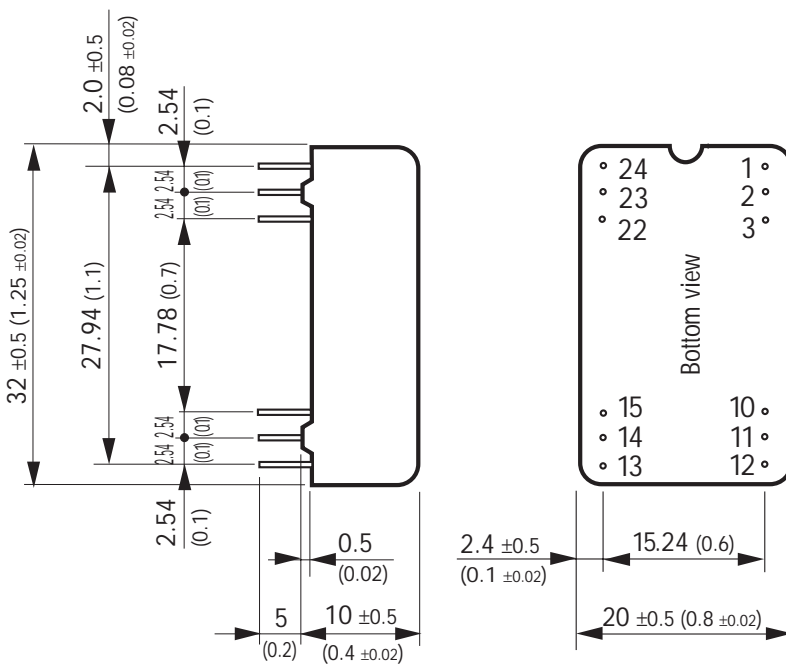
Temperature ranges	– Operating	– 25 °C ... +75 °C
	– Case	+ 95 °C
	– Storage	– 40 °C ... +115 °C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		> 1'000'000 h @ 25 °C
Isolation voltage	– Input/Output	500 VDC
	– Input/Case	500 VDC
	– Output/Case	500 VDC
	– Output/Output	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-0)
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