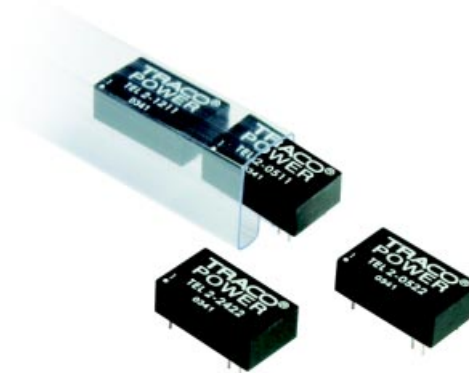


Features

- Ultracompact DIL-16 Plastic Package
- Wide 2:1 Input Range
- Regulated Output
- I/O-Isolation 1500V
- Input Filter meets EN55022A without ext. Components
- Low Ripple and Noise
- Indefinite Shortcircuit Protection
- Operating Temperature Range -40°C to +75°C
- 3 Year Product Warranty



The TEL-2 series, comprising 28 models, is a range of isolated 2 Watt converters in a low profile DIL-16 package. Requiring only 3.25 cm² of space on the PCB they provide a complete DC/DC converter without need of any external components. Wide input range and tightly regulated output voltage qualifies these converters for many cost critical applications in industrial and consumer electronics.

Models				
Ordercode	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TEL 2-0510 TEL 2-0511 TEL 2-0512 TEL 2-0513 TEL 2-0521 TEL 2-0522 TEL 2-0523	4.5 – 9.0 VDC	3.3 VDC	500 mA	70 %
		5 VDC	400 mA	73 %
		12 VDC	167 mA	75 %
		15 VDC	134 mA	73 %
		± 5 VDC	± 200 mA	64 %
		± 12 VDC	± 83 mA	69 %
		± 15 VDC	± 67 mA	71 %
TEL 2-1210 TEL 2-1211 TEL 2-1212 TEL 2-1213 TEL 2-1221 TEL 2-1222 TEL 2-1223	9 – 18 VDC	3.3 VDC	500 mA	73 %
		5 VDC	400 mA	77 %
		12 VDC	167 mA	80 %
		15 VDC	134 mA	80 %
		± 5 VDC	± 200 mA	73 %
		± 12 VDC	± 83 mA	78 %
		± 15 VDC	± 67 mA	78 %
TEL 2-2410 TEL 2-2411 TEL 2-2412 TEL 2-2413 TEL 2-2421 TEL 2-2422 TEL 2-2423	18 – 36 VDC	3.3 VDC	500 mA	72 %
		5 VDC	400 mA	77 %
		12 VDC	167 mA	80 %
		15 VDC	134 mA	81 %
		± 5 VDC	± 200 mA	74 %
		± 12 VDC	± 83 mA	78 %
		± 15 VDC	± 67 mA	80 %
TEL 2-4810 TEL 2-4811 TEL 2-4812 TEL 2-4813 TEL 2-4821 TEL 2-4822 TEL 2-4823	36 – 72 VDC	3.3 VDC	500 mA	71 %
		5 VDC	400 mA	73 %
		12 VDC	167 mA	79 %
		15 VDC	134 mA	79 %
		± 5 VDC	± 200 mA	71 %
		± 12 VDC	± 83 mA	77 %
		± 15 VDC	± 67 mA	77 %

Input Specifications

Input current at full load (nominal input)	5 Vin models:	930 mA typ.
	12 Vin models:	420 mA typ.
	24 Vin models:	205 mA typ.
	48 Vin models:	100 mA typ.
Surge voltage (100 msec. max.)	5 Vin models:	11 V max.
	12 Vin models:	25 V max.
	24 Vin models:	50 V max.
	48 Vin models:	100 V max.
Conducted noise (input)		EN 55022 level A, FCC part 15, level A

Output Specifications

Voltage set accuracy		± 2 %
Regulation	– Input variation Vin min. to Vin max.	± 0.5 % max.
	– Load variation 25 – 100 %	± 0.75 % max.
	dual output models:	± 2.0% (balanced load)
Ripple and noise (20 MHz Bandwidth)		50 mVpk-pk max
Temperature coefficient		± 0.02 %/K
Short circuit protection		indefinite, automatic recovery
Minimum load		25% of rated max current (operation at lower load condition is safe but a higher output ripple will be experienced)
Capacitive load	3.3 VDC output models:	2'200 µF max.
	5 VDC output models:	1'000 µF max.
	12 VDC output models:	170 µF max.
	15 VDC output models:	110 µF max.
	± 5 VDC output models:	470 µF max.
	± 12 VDC output models:	100 µF max.
	± 15 VDC output models:	47 µF max.

General Specifications

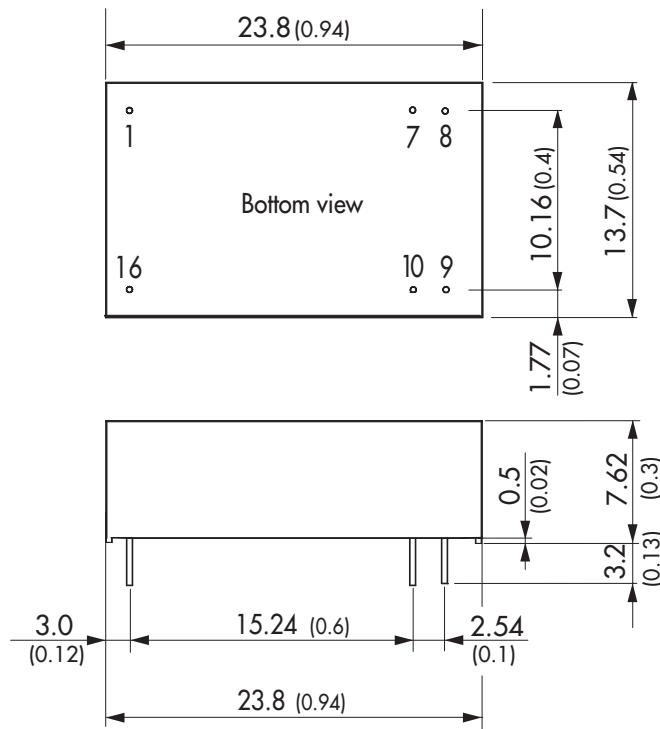
Temperature ranges	– Operating	– 40 °C ... + 75 °C (no derating)
	– Storage	– 40 °C ... + 125 °C
Humidity (non condensing)		95 % rel. H max.
Reliability, calculated MTBF (MIL-HDBK-217 F)		> 1.2 Mio h @ 25°C
Isolation voltage	Input/Output	1'500 VDC
Isolation capacity	Input/Output	250 pF max.
Isolation resistance	Input/Output (500 VDC)	> 1'000 M Ohm
Switching frequency		300 kHz (PFM)

Physical Specifications

Case material		Non-conductive plastic
Potting material		Epoxy, UL94V-0 - rated
Weight		5.1 g (0.17oz)

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

Outline Dimensions mm (inches)



Pin-Out		
Pin	Single	Dual
1	-Vin (GND)	-Vin (GND)
7	No con.	No con.
8	No con.	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

Pin diameter $\varnothing 0.5 \pm 0.05$ (0.02) ± 0.002
Tolerances ± 0.25 (0.01)

Specifications can be changed without notice