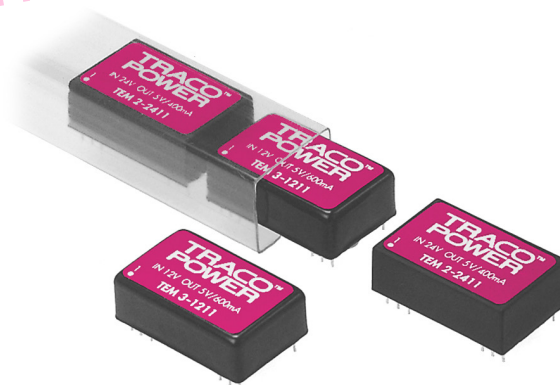


Features

- ◆ DIL-24 plastic package
- ◆ Tightly regulated output
- ◆ Very low output noise
- ◆ Short circuit protection
- ◆ Operating temperature range -25°C to +70°C
- ◆ I/O isolation 1'000 VDC
- ◆ Internal filter
- ◆ Industry standard pinout
- ◆ 3-year product warranty

End of life



The TEM 2 series is a family of isolated dc/dc converters in a DIP-24 package. They offer tight line/load regulation and 1000 VDC I/O isolation. Standard features include an internal filter to reduce reflected input ripple current and to guarantee low output noise. This product series provides a cost effective solution by many industrial or consumer electronics applications.

Models				
Ordercode	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TEM 2-0511 *	5 VDC ±10%	5 VDC	400 mA	50 %
TEM 2-0512 *		12 VDC	165 mA	54 %
TEM 2-0521 *		±12 VDC	±80 mA	53 %
TEM 2-0522 *		±15 VDC	±65 mA	51 %
TEM 2-1211 *	12 VDC ±10%	5 VDC	400 mA	50 %
TEM 2-1212 *		12 VDC	165 mA	56 %
TEM 2-1221 *		±12 VDC	±80 mA	59 %
TEM 2-1222 *		±15 VDC	±65 mA	59 %
TEM 2-2411 *	24 VDC ±10%	5 VDC	400 mA	51 %
TEM 2-2412 *		12 VDC	165 mA	61 %
TEM 2-2421 *		±12 VDC	±80 mA	61 %
TEM 2-2422 *		±15 VDC	±65 mA	61 %

* = End of life

Input Specifications

Input current no load	5 Vin models:	80 mA typ.
	12 Vin models:	40 mA typ.
	24 Vin models:	20 mA typ.
Surge voltage (1 sec. max.)	5 Vin models:	7.5 V max.
	12 Vin models:	15 V max.
	24 Vin models:	30 V max.
Input filter	Pi-Filter	

Output Specifications

Voltage set accuracy		±3 %
Regulation	– Input variation Vin min. to Vin max. – Load variation 10 – 100 %	±0.3 % max. single output models: ±0.5 % max. dual output models balanced load: ±1.0 % max. dual output models unbalanced load: ±3.0 % max.
Ripple and noise (20 MHz Bandwidth)		50 mVpk-pk max
Temperature coefficient		±0.02 %/K
Current limitation		>120 % of Iout max., constant current
Short circuit protection		indefinite
Capacitive load	single output models: dual output models:	470 µF max. 220 µF max.

General Specifications

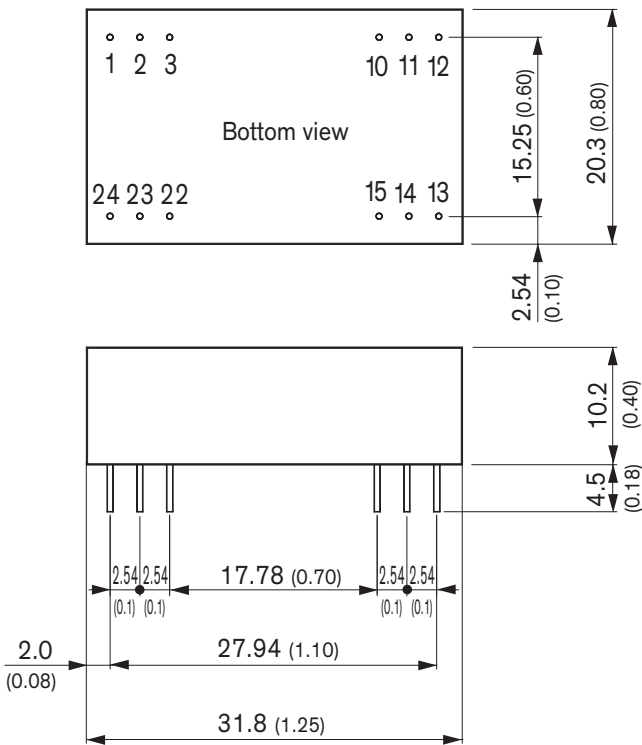
Temperature ranges	<ul style="list-style-type: none">– Operating– Case temperature– Storage	5 VDC output models: –25°C to +70°C –25°C to +60°C +95°C max. –40°C to +125°C
Derating		3 %/K above +70°C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		>800'000 Mio. h
Isolation voltage (60 sec.)	<ul style="list-style-type: none">– Input/Output	1'000 VDC
Isolation capacitance	<ul style="list-style-type: none">– Input/Output	100 pF typ.
Isolation resistance	<ul style="list-style-type: none">– Input/Output (500 VDC)	>1'000 M Ohm
Switching frequency		80 kHz typ. (Pulse frequency modulation PFM)
Safety standards		cUL/UL 60950-1, IEC/EN 60950-1
Environmental compliance	<ul style="list-style-type: none">– Reach– RoHS	www.tracopower.com/info/reach-declaration.pdf directive 2011/65/EU

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

Physical Specifications

Casing material	non conductive plastic (UL94V-0 rated)
Weight	12 g (0.42 oz)
Soldering temperature	max. 260°C / 10 sec.

Outline Dimensions mm (inches)



Pin-Out		
Pin	Single	Dual
1	+Vin (Vcc)	+Vin (Vcc)
2	NC	-Vout
3	NC	Common
10	-Vout	Common
11	+Vout	+Vout
12	-Vin (GND)	-Vin (GND)
13	-Vin (GND)	-Vin (GND)
14	+Vout	+Vout
15	-Vout	Common
22	NC	Common
23	NC	-Vout
24	+Vin (Vcc)	+Vin (Vcc)

NC = not connected

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

Specifications can be changed any time without notice.

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