



DC/DC Converter

TEM 2 Series

2 Watt

Features

- 24-Pin DIP Plastic Package
- Tightly regulated Output
- Very low Output Noise
- Short-Circuit Protection
- Internal Filter
- Industry Standard Pinout
- 2 Year Product Warranty



The TEM-2 series is a family of isolated dc/dc converters in a DIP-24 package. They offer tight line/ load regulation and 500 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	Output voltage	Output current max.	Efficiency typ.
TEM 2-0511	5 VDC \pm 10%	5 VDC	400 mA	50 %
TEM 2-0512		12 VDC	165 mA	54 %
TEM 2-0521		\pm 12 VDC	\pm 80 mA	53 %
TEM 2-0522		\pm 15 VDC	\pm 65 mA	51 %
TEM 2-1211	12 VDC \pm 10%	5 VDC	400 mA	50 %
TEM 2-1212		12 VDC	165 mA	56 %
TEM 2-1221		\pm 12 VDC	\pm 80 mA	59 %
TEM 2-1222		\pm 15 VDC	\pm 65 mA	59 %
TEM 2-2411	24 VDC \pm 10%	5 VDC	400 mA	51 %
TEM 2-2412		12 VDC	165 mA	61 %
TEM 2-2421		\pm 12 VDC	\pm 80 mA	61 %
TEM 2-2422		\pm 15 VDC	\pm 60 mA	61 %

Input Specifications

Input current (no load)	5 Vin models	80 mA typ.
	12 Vin models	40 mA typ.
	24 Vin models	20 mA typ.
Input current (full load)	5 Vin models	770 mA typ.
	12 Vin models	300 mA typ.
	24 Vin models	145 mA typ.
Surge voltage (1 sec. max.)	5 Vin models	7.5 VDC
	12 Vin models	15.0 VDC
	24 Vin models	30.0 VDC

Input filter	Pi-Filter
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Output Specifications

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

General Specifications

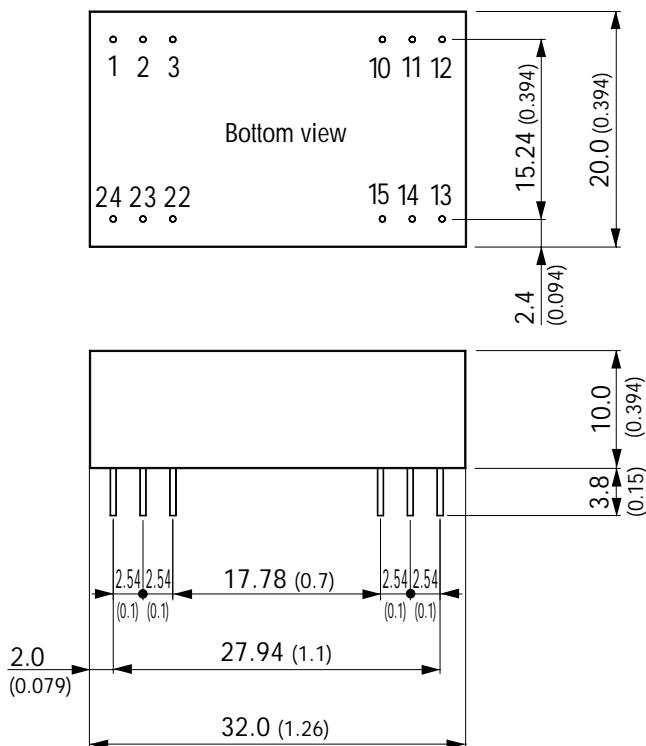
Temperature ranges	– Operating	– 25 °C ... + 70 °C
	5VDC output models:	– 25 °C ... + 60 °C
	– Case	+ 95 °C max.
	– Storage	– 40 °C ... + 125 °C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		> 800'000 h @ + 25 °C
Isolation voltage	Input/Output	500 VDC
Isolation capacity	Input/Output	100 pF typ
Isolation resistance	Input/Output (500 VDC)	> 1'000 M Ohm
Switching frequency		80 kHz typ.

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

Physical Specifications

Case material	non conductive plastic (UL 94V-0 rating)
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	No function	-Vout
3	No function	Common
10	-Vout	Common
11	+Vout	+Vout
12	-Vin (GND)	-Vin (GND)
13	-Vin (GND)	-Vin (GND)
14	+Vout	+Vout
15	-Vout	Common
22	No function	Common
23	No function	-Vout
24	+Vin (Vcc)	+Vin (Vcc)

() = inches

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

Tolerances ± 0.5 (0.01)

Specifications can be changed without notice