

#### 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 TEM 2-0512 TEM 2-0521 TEM 2-0522	5 VDC ± 10%	5 VDC 12 VDC ±12 VDC ±15 VDC	400 mA 165 mA ± 80 mA ± 65 mA	50 % 54 % 53 % 51 %
TEM 2-1211 TEM 2-1212 TEM 2-1221 TEM 2-1222	12 VDC ± 10%	5 VDC 12 VDC ±12 VDC ±15 VDC	400 mA 165 mA ± 80 mA ± 65 mA	50 % 56 % 59 % 59 %
TEM 2-2411 TEM 2-2412 TEM 2-2421 TEM 2-2422	24 VDC ± 10%	5 VDC 12 VDC ±12 VDC ±15 VDC	400 mA 165 mA ± 80 mA ± 60 mA	51 % 61 % 61 % 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

### 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

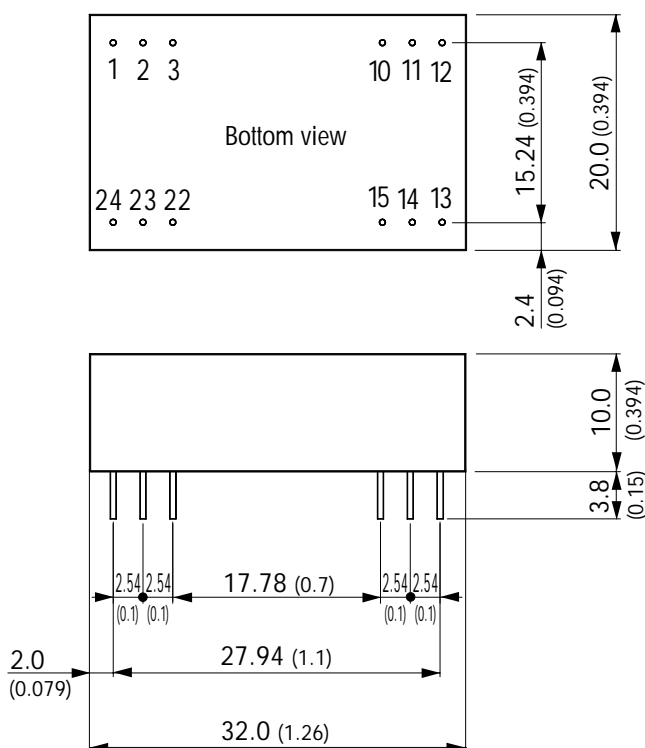
Temperature ranges	– Operating	– 25 °C ... + 70 °C
		5VDC output models: – 25 °C ... + 60 °C
	– Case	+ 95 °C max.
	– Storage	– 40 °C ... + 125 °C
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217 E)		> 800'000 h @ + 25 °C
Isolation voltage	Input/Output	500 VDC
Isolation 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)  $\pm 0.002$

Tolerances  $\pm 0.5$  (0.01)

Specifications can be changed without notice