

- **Highly cost efficient design**
- **I/O isolation: 1'500 VDC**
- **Operating temperature range -40 to +85 °C without derating**
- **5 VDC ( $\pm 10\%$ ) input voltage range**
- **Unregulated outputs**
- **Efficiency up to 78%**
- **Industry standard SIP-4 package**
- **3-year product warranty**



The TEA 1 is an unregulated 1 Watt DC/DC SIP-4 converter series which is specifically designed to offer a low-cost solution while keeping a high quality standard. This new series focuses on a simple but effective design approach, which minimizes component and labor cost and is complemented with a complete automatization of the manufacturing process. An operating temperature range from -40°C to 85°C without derating and an I/O-isolation of 1'500 VDC enables this series to cover many different applications. The industry standard package of this converter offers a broad application range in any space, cost critical application and is especially suited for high volume projects where simple but reliable products are needed.

### Models

Order Code	Input Voltage Range	Output Voltage nom.	Output Current max.	Efficiency typ.
TEA 1-0505	4.5 - 5.5 VDC (5 VDC nom.)	5 VDC	200 mA	78 %

### Input Specifications

Input Current	- At no load	28 mA typ.
Surge Voltage		9 VDC max. (1 s max.)
Recommended Input Fuse		500 mA (slow blow) (The need of an external fuse has to be assessed in the final application.)
Input Filter		Internal Capacitor

### Output Specifications

Voltage Set Accuracy		±3% max. (at 60 % load)
Regulation	- Input Variation (1% Vin step) - Load Variation (10 - 90%)	1.5% max. 9% max.
Ripple and Noise	- 20 MHz Bandwidth	100 mVp-p max. 50 mVp-p typ.
Capacitive Load		470 µF max.
Minimum Load		Not required
Temperature Coefficient		±0.03 %/K max.
Start-up Time		30 ms max.
Short Circuit Protection		Limited 1 s max.

### Safety Specifications

Safety Standards	- IT / Multimedia Equipment	Designed for EN 60950-1 (no certification)
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### General Specifications

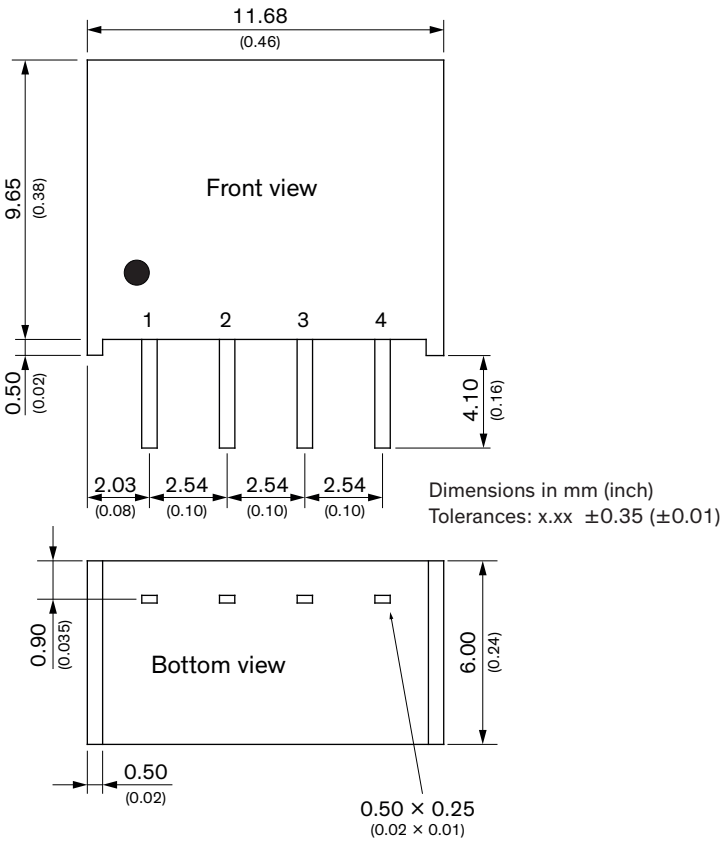
Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature - Case Temperature - Storage Temperature	-40°C to +95°C +105°C max. -55°C to +125°C
Power Derating	- High Temperature	5 %/K above 85°C
Cooling System		Natural convection (20 LFM)
Switching Frequency		100 kHz typ.
Insulation System		Functional Insulation
Isolation Test Voltage	- Input to Output, 60 s	1'500 VDC
Isolation Resistance	- Input to Output, 500 VDC	1'000 MΩ min.
Isolation Capacitance	- Input to Output, 100 kHz, 1 V	30 pF typ.
Reliability	- Calculated MTBF	2'000'000 h (MIL-HDBK-217F, ground benign)
Housing Material		Plastic (UL 94 V-0 rated)
Potting Material		Epoxy (UL 94 V-0 rated)
Pin Material		Tinned Copper
Weight		1.6 g
Environmental Compliance	- Reach - RoHS	<a href="http://www.tracopower.com/info/reach-declaration.pdf">www.tracopower.com/info/reach-declaration.pdf</a> <a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a>

### Supporting Documents

Overview Link (for additional Documents)	<a href="http://www.tracopower.com/overview/tea1">www.tracopower.com/overview/tea1</a>
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All specifications valid at nominal voltage, full load and +25°C after warm-up time unless otherwise stated.

**Outline Dimensions**



Pinout	
Pin	Function
1	-Vin (GND)
2	+Vin (Vcc)
3	-Vout
4	+Vout

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