

Features

- ◆ PCB Power module in 1" x 1" package
- ◆ To comply with ErP directive
- ◆ No load input power <150mW, to comply with ErP directive
- ◆ Operating temperature range -25°C to +70°C
- ◆ Certified to EN60335-2 (household appliance)
- ◆ EMI meets EN 55022, class B
- ◆ Protection class II
- ◆ 3-year product warranty



The TMPS-03 series are ultra compact AC/DC power supplies in a fully encapsulated plastic casing for PCB mount. Their safety approvals and extended operating temp. range from -25°C to +70°C qualify them for worldwide markets. They are certified to EN 60335 for household appliance and offer an interesting solution for space critical applications in commercial, and industrial electronic equipment and if compliance to ErP directive is required.

Models

Order code	Output power max.	Output Voltage	Output Current		Efficiency
			max.	peak ¹⁾	
TMPS 03-103	3 W	3.3 VDC	900 mA	1170 mA	70 %
TMPS 03-105		5.0 VDC	600 mA	780 mA	72 %
TMPS 03-109		9.0 VDC	333 mA	430 mA	77 %
TMPS 03-112		12 VDC	250 mA	320 mA	78 %
TMPS 03-115		15 VDC	200 mA	260 mA	78 %
TMPS 03-124		24 VDC	125 mA	160 mA	78 %

¹⁾ < 30s with maximum duty cycle of 10%, average output power must not exceed 3W

Input Specifications

Input voltage ranges	– AC input – DC Input	85 – 264 VAC 120 – 370 VDC
Input frequency		47 – 63 Hz
Input current at full load (115 VAC / 230 VAC nominal input)		62 mA typ.
No-Load power consumption		150 mW max.

Output Specifications

Voltage set accuracy		±2 % max.
Minimum load		no minimum load required
Ripple and noise (20 MHz bandwidth)		70 mVp-p max.
Regulation – Input variation		1 % max.
Regulation – Load variation		1 % max.
Hold-up time		8 ms typ. (at 115 VAC and full load)
Over voltage protection		max. 190 % of nominal Vout
Over load protection		150 % of lout nominal typ. (foldback, auto recovery)
Short circuit protection		continuous
Max. capacitive load	3.3 VDC model: 5.0 VDC model: 9.0 VDC model: 12 VDC model: 15 VDC model: 24 VDC model:	1200 µF 800 µF 440 µF 330 µF 260 µF 160 µF

General Specifications

Temperature ranges	– Operating (convection cooling) – Power derating above +60°C – Storage (non operating)	–25°C to +70°C 5.0 %/K –40°C to +85°C
Temperature coefficient		0.05 %/°C
Humidity (non condensing)		95 % rel max.
Switching frequency (pulse width modulation PWM)		65 kHz typ.
Isolation voltage	– Input/Output	3'000 VAC
Isolation resistance (500 VDC)		>100 MOhm
Reliability /calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		>1.2 mio h
Electromagnetic compatibility (EMC), emissions	– Conducted input RI suppression – Radiated input surpression	EN 55022, class B, FCC part 15, level B EN 55014-1, EN55014-2
Electromagnetic compatibility (EMC), immunity	– Electrostatic discharge ESD – RF field immunity – Electrical fast transients/burst immunity – Surge – Conducted RF – Magnetic field immunity	IEC / EN 61000-4-2, 8kV/4kV criteria A IEC / EN 61000-4-3, 10V/m 80% AM criteria A IEC / EN 61000-4-4, 2kV DC criteria A IEC / EN 61000-4-5, 1kV/0.5kV criteria A IEC / EN 61000-4-6, 10Vrms criteria A IEC / EN 61000-4-8, 30A/m criteria A
Voltage dip and interruptions according to EN 61000-4-11 reference: 115 VAC / 60Hz		30%, 10ms perf. criteria A 60%, 100ms perf. criteria B 95%, 5000ms perf. criteria B

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

General Specifications (continued)

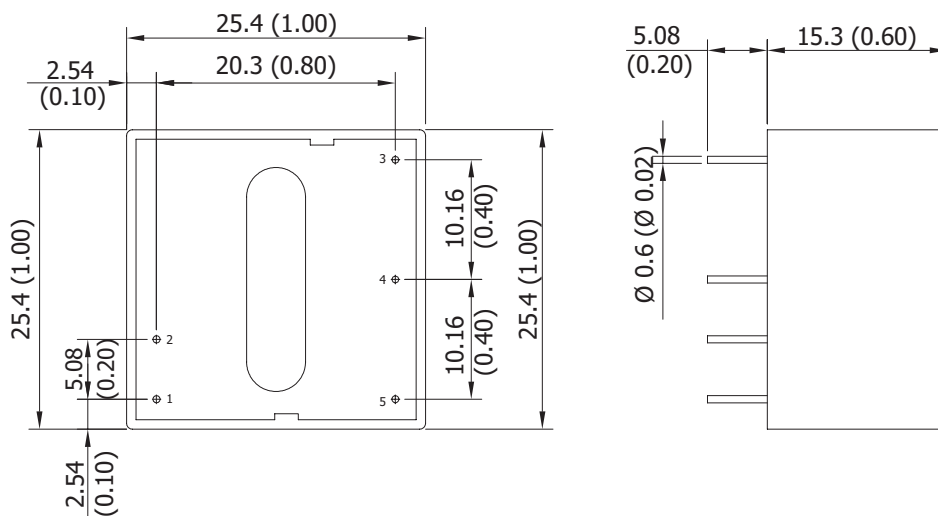
Protection class II	According IEC/EN 60536	
Safety standards	IEC/EN 60950-1, UL 60950-1 EN 60335-1	
Safety approvals	- CB certificate for IEC 60950-1 - UL/cUL 60950-1	www.tracopower.com/products/tmps03-cb60950.pdf www.ul.com -> certifications -> File e188913
Casing material	plastic resin + fiberglass (UL 94V-0 rated)	
Environmental compliance	- Reach - RoHS	www.tracopower.com/products/reach-declaration.pdf RoHS directive 2011/65/EU

Physical Specifications

Casing material	plastic resin + fiberglass (UL 94V-0 rated)	
Pin	copper alloy with gold plated nickel subplate	
Weight	17.4 g (0.61 oz)	

Outline Dimensions

TMPS 03:



Pinout	
Pin	
1	AC(N)
2	AC(L)
3	NC
4	-Vout
5	+Vout

NC = not to connect

Dimensions in [mm], () = Inches
Tolerances = 0.5mm (0.01)
Pin diameter \varnothing 0.6 mm (0.02 \pm 0.004)

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com