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Features

- ◆ PCB Power module in 1" x 1" package
- ◆ No load input power <150mW, to comply with ErP directive
- ◆ Operating temperature range -25°C to +70°C
- ◆ Certified to EN60335-1 for household appliance
- ◆ EMI meets EN 55022, class B
- ◆ Protection class II prepared
- ◆ 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 60335-1 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 or 230 VAC nominal input)		60 mA typ.
Inrush current (115 VAC / 230 VAC nominal input)		15 A max. / 25 A max.
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)
Current limitation (Operation under over-load conditions may cause damage)		at 150 % typ. (auto recovery)
Short circuit protection		hiccup, automatic recovery
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 820 µF 470 µF 330 µF 270 µF 180 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	4'242 VDC
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 suppression	EN 55022, class B, FCC part 15, level B EN 55014-1
Electromagnetic compatibility (EMC), Immunity	– Electrostatic discharge ESD – RF field immunity – Electrical fast transients/burst immunity – Surge – Conducted RF – Magnetic field immunity – Mains voltage dips and interruptions	EN 55014-2, EN 61204-3, EN 55024 EN 61000-4-2, air 8 kV / 4 kV, criteria A EN 61000-4-3, 10 V/m, criteria A EN 61000-4-4, 2 kV, criteria A EN 61000-4-5, 1 kV, criteria A EN 61000-4-6, 10 Vrms, criteria A EN 61000-4-8, 30 A/m, criteria A EN 61000-4-11, >95 % 0.5 periods, criteria A 60 %, 10 periods, criteria A 30 %, 25 periods, criteria A

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

General Specifications (continued)

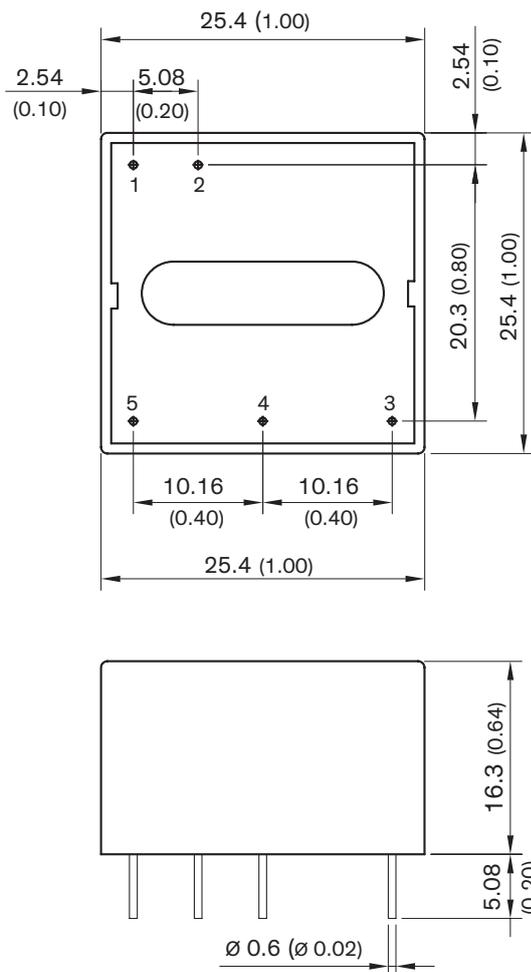
Protection class II	prepared according IEC/EN 60536
Safety standards	UL 60950-1 and CSA C22.2 No. 60950-1-07 IEC/EN 60950-1 EN 60335-1 www.tracopower.com/overview/tmps03
Environmental compliance	– Reach – RoHS www.tracopower.com/products/reach-declaration.pdf RoHS directive 2011/65/EU

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

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

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