

AC/DC Power Modules

TMPS 03 Series, 3 Watt









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						
0	Output power max.	Output Voltage	Output Current		r(C::	
Order code			max.	peak 1)	Efficiency	
TMPS 03-103		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	3 W	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) &}lt; 30s with maximum duty cycle of 10%, average output power must not exceed 3W



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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 b	andwidth)		70 mVp-p max.
Regulation – Input variation			1 % max.
Regulation – Load variation			1 % max.
Hold-up time			8 ms typ. (at 115 VACand 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	5.0 VC 9.0 VC 12 VC 15 VC	C model: C model: C model: C model: C model: C model:	330 μF 330 μF 260 μF 160 μF
General Specification	s		
Temperature ranges	Operating (convection cooling)Power derating above +60°CStorage (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 w	ridth 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	r – 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.



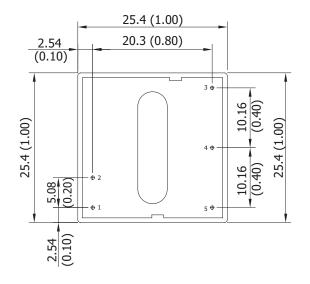
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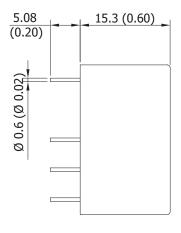
Protection class II Safety standards		Acording IEC/EN 60536		
		IEC/EN 60950-1, UL 60950-1 EN 60335-1		
Safety approvals	- CB certificate for IEC 60950-1 - UL/cUL 60950-1	www.tracopower.com/products/tmps03-cb60950.pdf www.ul.com -> certifications -> File e188913		
Environmental compliance	- Reach - RoHS	www.tracopower.com/overview/tmps03 RoHS directive 2011/65/EU		
Physical Specification	ns			
Casing material		plastic resin + fiberglass (UL 94V-0 rated)		
Pin		copper alloy with gold plated nickel subplate		
Weight		17.4 g (0.61 oz)		

Application note: www.tracopower.com/products/tmps03-application.pdf

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 Ø 0.6 mm (0.02 ± 0.004)