TOPPOWER

TPB Series



DESCRIPTION: **2W 3KVDC Isolation Regulated Single Output DC/DC Converters**

TPB Series are specially designed for 3KVDC isolation & regulated single output application, the input voltage range within ± 5%, regulated output with very low ripple noise.

FEATURES

SIP package	3KVDC isolation	Operating temperature:-40℃ to 105℃
Regulated single output	Continuous short circuit protection	RoHS compliance、CE certification

SELECTION GUIDE

Part Number	Input		Output			Efficiency (%)
	Voltage (VDC)		Voltage (VDC)	Current (mA)		
	Nominal	Range		Max	Min	
TPB0505S	5	4.75-5.25	5	400	40	70
TPB0512S	5	4.75-5.25	12	150	15	71
TPB1205S	12	11.40-12.60	5	400	40	70
TPB1215S	12	11.40-12.60	15	133	13	72
TPB1505S	15	14.25-15.75	5	400	40	71
TPB2405S	24	22.8-25.2	5	400	40	71
TPB2415S	24	22.8-25.2	15	133	13	74

Add suffix “P” for continuous short circuit protection, for example TPB0505SP.

All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

COMMON SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Units
Storage humidity				95	%
Operating temperature	Derating if the temperature ≥85°C	-40		105	℃
Storage temperature		-55		125	℃
Temp. rise at full load			40	58	℃
Lead temperature	1.5mm from case for 10 seconds			300	℃
Short circuit protection		Continuous			
Cooling		air convection			
Case material		Plastic(UL94-V0)			
MTBF		3500			K hours
Weight			2.8		g

OUTPUT SPECIFICATIONS

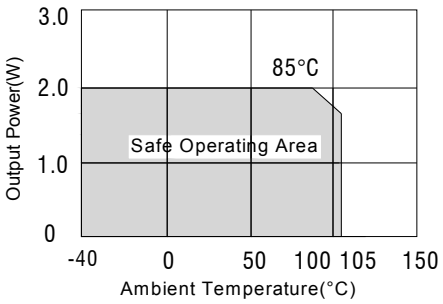
Parameter	Conditions	Min.	Typ.	Max.	Units
Output power		0.2		2	W
Line regulation	High VIN to low VIN (voltage variation +/-5%)			±0.5	%
Load regulation	10% to100% load			±1.5	%
Output voltage accuracy	100% full load			±3	%
Temperature drift	100% full load			0.03	%/℃
Ripple	20MHz Bandwidth		20	30	mVp-p
Noise	20MHz Bandwidth		50	150	mVp-p

ISOLATION CHARACTERISTICS

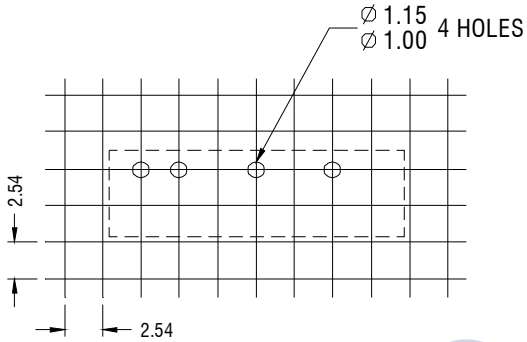
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation voltage	Tested for 1 minute and 1mA max	3000			VDC
Isolation resistance	Test at 1000VDC	1			GΩ

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TEMPERATURE DERATING GRAPHS



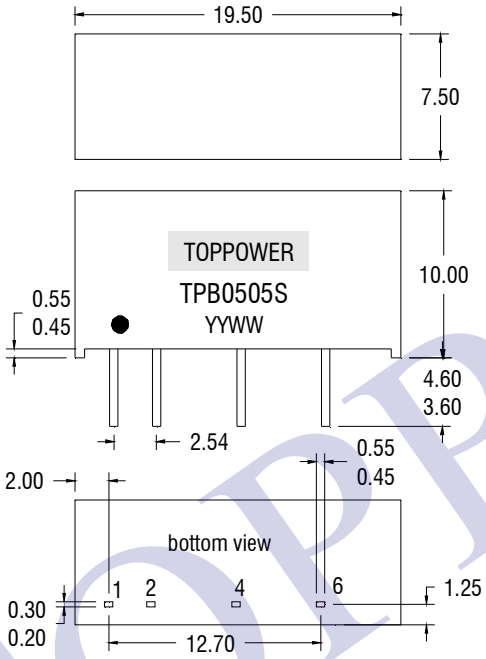
RECOMMENDED FOOTPRINT DETAILS



All dimensions in mm ±0.25.All pins on a 2.54mm pitch.

MECHANICAL DIMENSIONS

SIP Package



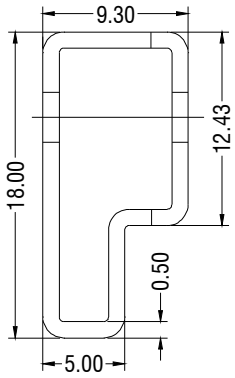
All dimensions in mm ±0.025.All pins on a 2.54mm pitch.

Weight: 2.8g

PIN CONNECTIONS

7 PIN SIP	
Pin	Function
1	+Vin
2	-Vin
4	-Vout
6	+Vout

TUBE OUTLINE DIMENSIONS



All dimensions in mm ±0.25mm Tube Quantity : 25PCS

APPLICATION NOTE

Requirement on output load

To ensure this module can operate efficiently and reliably, During operation, the minimum output load could not be less than 10% of the full load. If the actual output power is very small, please connect a resistor with proper resistance at the output end in parallel to increase the load, or use our company's products with a lower rated output power.

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