TOPPOWER

TPB-1W Series



DESCRIPTION: **1W 3KVDC Isolation Regulated Single Output DC/DC Converters**

TPB-1W series are specially designed for 3KVDC isolation & regulated single and output application, the input voltage range within ±5%, regulated output with very low ripple noise. short circuit protection

FEATURES

SIP package	3000VDC Isolation	Operating temperature -40ºC to 105ºC
Regulated single output	Continuous short circuit protection	RoHS Compliance、CE certification
Low ripple noise	Small footprint	No external component required
Internal SMD construction	Input voltage:3.3V,5V,12V,15V,24V	Output voltage:3.3V,5V,9V,12V,15V,24V

SELECTION GUIDE

Part Number	Input		Output			Efficiency（%）
	Voltage（VDC）		Voltage（VDC）	Current（mA）		
	Nominal	Range		Max	Min	
TPB0303S-1W	3.3	3.13~3.47	3.3	303	30	66
TPB0305S-1W	3.3	3.13~3.47	5	200	20	66
TPB0503S-1W	5	4.75~5.25	3.3	303	30	66
TPB0505S-W75	5	4.75~5.25	5	150	15	68
TPB0505S-1W	5	4.75~5.25	5	200	20	66
TPB0509S-1W	5	4.75~5.25	9	111	12	70
TPB0512S-1W	5	4.75~5.25	12	83	9	71
TPB0515S-1W	5	4.75~5.25	15	67	7	73
TPB0524S-1W	5	4.75~5.25	24	42	5	68
TPB1205S-W75	12	11.4~12.6	5	150	15	70
TPB1205S-1W	12	11.4~12.6	5	200	20	67
TPB1209S-1W	12	11.4~12.6	9	111	12	72
TPB1212S-1W	12	11.4~12.6	12	83	9	70
TPB1215S-1W	12	11.4~12.6	15	67	7	74
TPB1224S-1W	12	11.4~12.6	24	42	5	68
TPB1505S-W75	15	14.25~15.75	5	150	15	68
TPB1505S-1W	15	14.25~15.75	5	200	20	67
TPB1509S-1W	15	14.25~15.75	9	111	12	71
TPB1512S-1W	15	14.25~15.75	12	83	9	71
TPB1515S-1W	15	14.25~15.75	15	67	7	72
TPB1524S-1W	15	14.25~15.75	24	42	5	68
TPB2405S-W75	24	22.8~25.2	5	150	15	68
TPB2405S-1W	24	22.8~25.2	5	200	20	68
TPB2409S-1W	24	22.8~25.2	9	111	12	68
TPB2412S-1W	24	22.8~25.2	12	83	9	73
TPB2415S-1W	24	22.8~25.2	15	67	7	75
TPB2424S-1W	24	22.8~25.2	24	42	5	68

Add suffix “P” for continuous short circuit protection, for example TPB0505SP-1W.

ISOLATION CHARACTERISTICS

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

OUTPUT SPECIFICATIONS

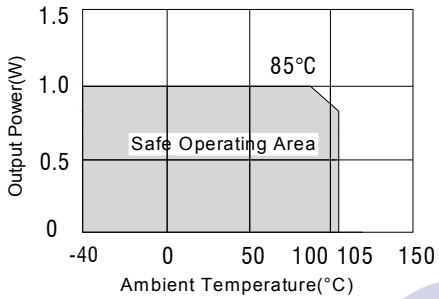
Item	Test Conditions	Min.	Typ.	Max.	Units
Output power		0.1		1	W
Line regulation	High VIN to low VIN (voltage variation +/-5%)			±0.25	%
Load regulation	10% to100% load			±1	%
Output voltage accuracy	100% full load			±3	%
Temperature drift	100% full load			±0.03	%/℃
Ripple	20MHz Bandwidth		10	20	mv p-p
Noise	20MHz Bandwidth		50	75	mv p-p
Switching frequency	100% load,nominal input		100		KHz

Download from alldatasheet.com

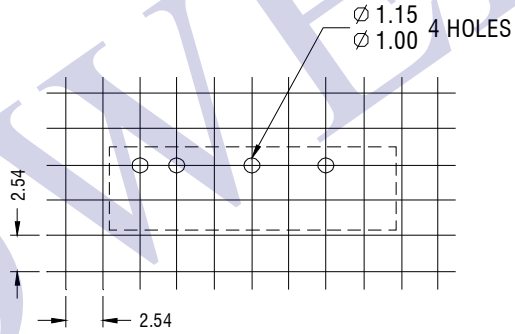
COMMON SPECIFICATIONS

Item	Test condition	Min.	Typ.	Max.	Units
Storage humidity	Test Condition			95	%
Operating temperature	Derating if the temperature ≥85°C	-40		105	℃
Storage temperature		-55		125	℃
Temp. Rise at full load			15	25	℃
Lead temperature				300	℃
Short circuit protection	TPBxx05S-1W			1	S
Short circuit protection	Others	Continuous			
Cooling		Free air convection			
Case material		Plastic (UL94-V0)			
MTBF		3500			K hours
Weight	SIP		2.1		g

TEMPERATURE DERATING GRAPHS

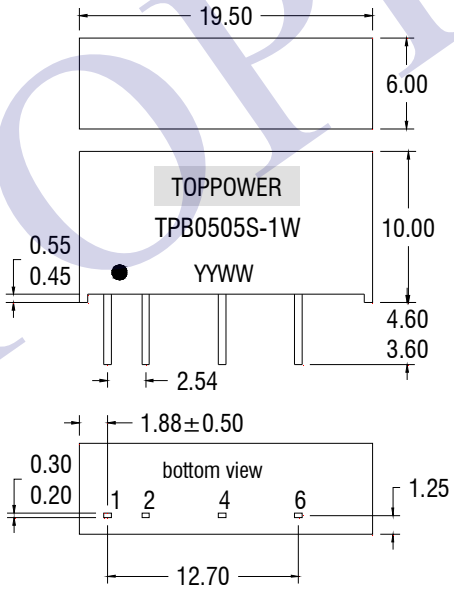


RECOMMENDED FOOTPRINT DETAILS



MECHANICAL DIMENSIONS

SIP Package

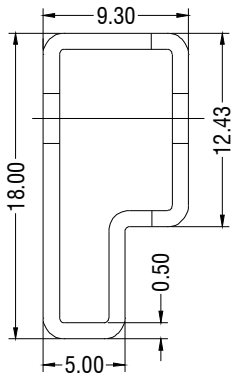


All dimensions in mm ±0.25 mm. All pins on a 2.54mm pitch. Weight: 2.1g

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

Download from alldatasheet.com