
DESCRIPTION:
2W Isolated Twin Output DC/DC Converters

The TPD-2W series are miniature, isolated 2W DC/DC-converters with twin output voltage in a SIP and DIP package. They offer the ideal solution in many space critical applications for board level power distribution. The internal SMD construction makes it possible to offer a product with high performance at low cost. The series offers smaller size, improved efficiency, lower output ripple noise and 3KVDC isolation.

FEATURES

RoHS compliant	Twin independent output	Input/output isolation 3KVDC
Output/output isolation 3KVDC	Power sharing on output	Efficiency up to 80%
UL 94V-0 package material	Footprint from 1.17cm ²	Input voltage: 5V, 12V
Output one: 5V	Output two: 3.3V, 5V, 9V, 12V, 15V	Operating temperature: -40°C to 85°C

SELECTION GUIDE

Part Number	Nominal Input Voltage V	Output Voltage 1 V	Output Voltage 2 V	Output Current 1 mA	Output Current 2 mA	Efficiency %	Package Style
TPD050503D-2W	5	5	3.3	200	302	69	DIP
TPD050505D-2W	5	5	5	200	198	70	DIP
TPD050509D-2W	5	5	9	200	110	79	DIP
TPD050512D-2W	5	5	12	200	82	80	DIP
TPD050515D-2W	5	5	15	200	70	79	DIP
TPD050503S-2W	5	5	3.3	200	302	70	SIP
TPD050505S-2W	5	5	5	200	198	70	SIP
TPD050509S-2W	5	5	9	200	110	79	SIP
TPD050512S-2W	5	5	12	200	82	80	SIP
TPD050515S-2W	5	5	15	200	70	80	SIP
TPD120505D-2W	12	5	5	200	198	70	DIP
TPD120509D-2W	12	5	9	200	110	80	DIP
TPD120512D-2W	12	5	12	200	82	80	DIP
TPD120515D-2W	12	5	15	200	70	79	DIP
TPD120505S-2W	12	5	5	200	198	70	SIP
TPD120509S-2W	12	5	9	200	110	80	SIP
TPD120512S-2W	12	5	12	200	82	79	SIP
TPD120515S-2W	12	5	15	200	70	80	SIP

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Voltage range	5V input types	4.5	5.0	5.5	V
Voltage range	12V input types	11	12	13	V

OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Rated power	TA= -40°C to 85°C			2.0	W
Voltage set point accuracy	See tolerance envelope				
Line regulation	High Vin to low Vin		1.0	1.2	%/%
Load regulation(10% load to rated load)	3.3V output variants			14	%
Load regulation(10% load to rated load)	5V output variants			14	%
Load regulation(10% load to rated load)	9V output variants			9	%
Load regulation(10% load to rated load)	12V output variants			9	%
Load regulation(10% load to rated load)	15V output variants			9	%

ABSOLUTE MAXIMUM RATINGS

Short-circuit protection	1 second
Lead temperature 1.5mm from case for 10 seconds	300℃
Input voltage V_{in} , TPD05 variants	6.5V
Input voltage V_{in} , TPD12 variants	14.5V

All specifications typical at $T_A=25^{\circ}\text{C}$, nominal input voltage and rated output current unless otherwise specified.

ISOLATION CHARACTERISTICS

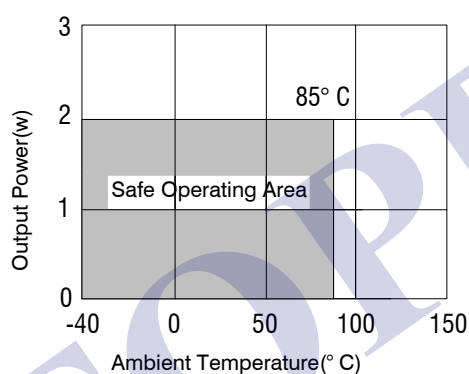
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation test voltage	Tested for 1 second	3000			VDC
Resistance	Viso= 1000VDC	1			GΩ

GENERAL CHARACTERISTICS

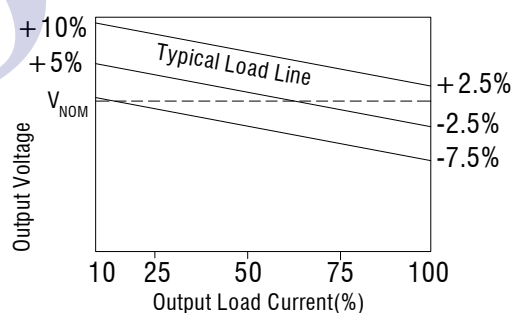
Parameter	Conditions	Min.	Typ.	Max.	Units
Switching frequency	All input types		110		kHz

TEMPERATURE CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Specification	All output types	-40		85	℃
Storage		-55		130	℃
Cooling	Free air convection				

TEMPERATURE DERATING GRAPHS

TOLERANCE ENVELOPES

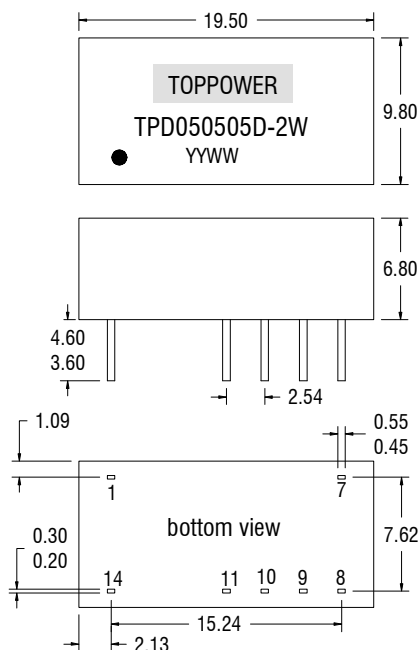
All other types


SOLDERING INFORMATION

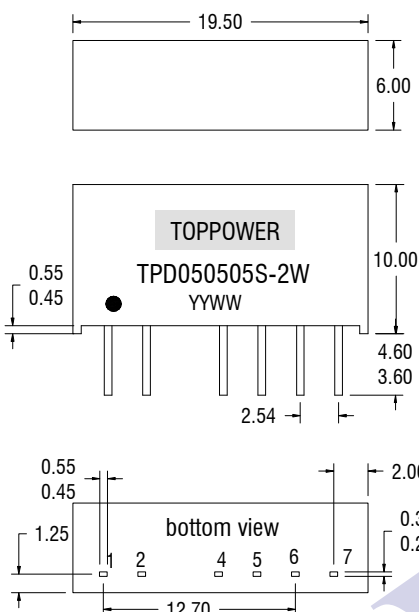
This series is compatible with RoHS soldering systems with a peak wave solder temperature of 300℃ for 10 seconds. Both SIP and DIP types in this series are backward compatible with Sn/Pb soldering systems.

MECHANICAL DIMENSIONS

DIP Package



SIP Package



All dimensions in mm ± 0.25 mm. All pins on a 2.54mm pitch and within ± 0.25 mm of true position.
Weight: 2.3g (DIP & SIP)

PIN CONNECTIONS-14PIN DIP

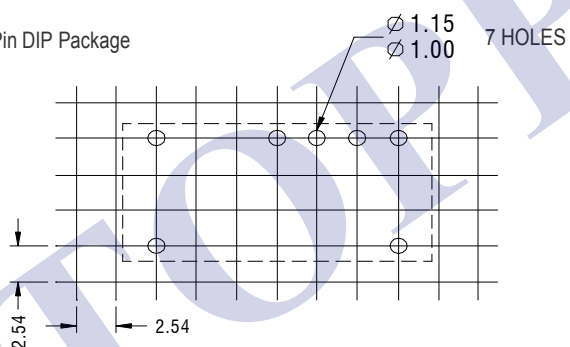
Pin	Function
1	-Vin
7	NC
8	-Vout2
9	+Vout2
10	-Vout1
11	+Vout1
14	+Vin

PIN CONNECTIONS-7PIN SIP

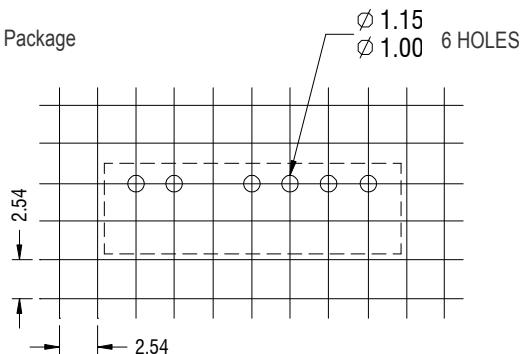
Pin	Function
1	+Vin
2	-Vin
4	+Vout1
5	-Vout1
6	+Vout2
7	-Vout2

RECOMMENDED FOOTPRINT DETAILS

14Pin DIP Package

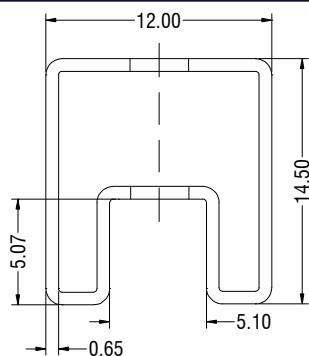


7Pin SIP Package

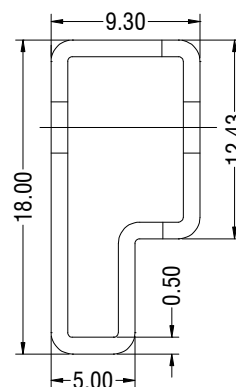


TUBE OUTLINE DIMENSIONS

14Pin DIP Tube



7Pin SIP Tube



Unless otherwise stated all dimensions in mm ± 0.5 mm.

Tube length (14 Pin DIP) : 520mm ± 2 mm Tube Quantity : 25

Tube length (7 Pin SIP) : 520mm ± 2 mm Tube Quantity : 25