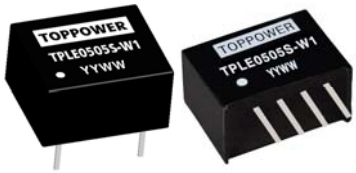
TPLE-W1 Series



DESCRIPTION: **0.1W 1.5KVDC Isolated Single Output DC/DC Converters**

The TPLE-W1 series are miniature, isolated low power and high efficiency DC/DC converters 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 1.5KVDC isolation. Operating temperature:-40ºC to 105ºC.

FEATURES

RoHS compliant、CE certification	Single output rail	1.5KVDC isolation
High efficiency for low power applications	SIP & DIP package styles	Power density 0.36W/cm^3
UL 94V-0 package material	Footprint from 0.69cm^2	Input voltage: 3.3V,5V,12V
Output voltage: 3.3V,5V, 9V, 12V ,15V	Custom solutions available	Operating temperature:-40ºC to 105ºC

SELECTION GUIDE

Part Number	Nominal Input Voltage	Output Voltage	Output Current (Max./Min)	Efficiency	Package Style
	V	V	mA	%	
TPLE0303D-W1	3.3	3.3	30.3/3.03	70	DIP
TPLE0305D-W1	3.3	5	20/2	80	DIP
TPLE0503D-W1	5	3.3	30.3/3.03	70	DIP
TPLE0505D-W1	5	5	20/2	80	DIP
TPLE0509D-W1	5	9	11.1/1.11	82	DIP
TPLE0512D-W1	5	12	8.3/0.83	86	DIP
TPLE0515D-W1	5	15	6.7/0.67	86	DIP
TPLE0303S-W1	3.3	3.3	30.3/3.03	70	SIP
TPLE0305S-W1	3.3	5	20/2	80	SIP
TPLE0503S-W1	5	3.3	30.3/3.03	70	SIP
TPLE0505S-W1	5	5	20/2	80	SIP
TPLE0509S-W1	5	9	11/1.1	82	SIP
TPLE0512S-W1	5	12	8.3/0.83	86	SIP
TPLE0515S-W1	5	15	6.7/0.67	86	SIP
TPLE1205D-W1	12	5	20/2	80	DIP
TPLE1209D-W1	12	9	11/1.1	82	DIP
TPLE1212D-W1	12	12	8.3/0.83	86	DIP
TPLE1215D-W1	12	15	6.7/0.67	86	DIP
TPLE1205S-W1	12	5	20/2	80	SIP
TPLE1209S-W1	12	9	11/1.1	82	SIP
TPLE1212S-W1	12	12	8.3/0.83	86	SIP
TPLE1215S-W1	12	15	6.7/0.67	86	SIP

Add suffix “P” for continuous short circuit protection, for example TPLE0505SP-W1.

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Voltage range	3.3V input types	2.9	3.3	3.6	V
Voltage range	5V input types	4.5	5.0	5.5	V
Voltage range	12V input types	11	12	13.3	V

OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Rated Power	TA= -40°C to 85°C			0.1	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)	5V output types			8	%
Load Regulation(10% load to rated load)	all other types			6	%

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

ABSOLUTE MAXIMUM RATINGS

Short-circuit protection	1 second
Lead temperature 1.5mm from case for 10 seconds	300°C
Input voltage Vin, TPLE3.3	5. 5V
Input voltage Vin, TPLE05	7V
Input voltage Vin, TPLE12	15V

ISOLATION CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation test voltage	Tested for 1 second	1500			VDC
Resistance	Viso= 1000VDC	1			GΩ

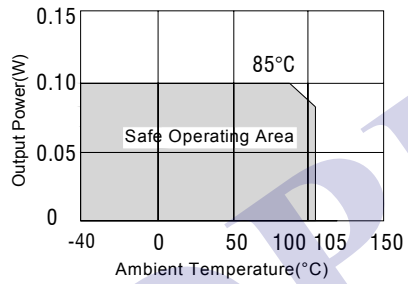
GENERAL CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Switching frequency	All input types		80		kHz

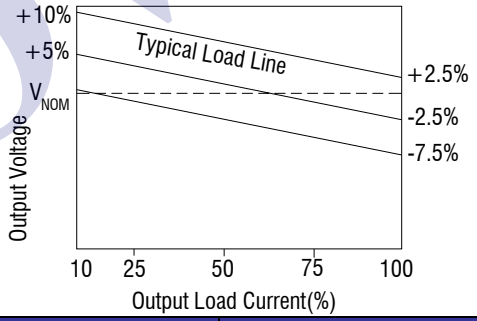
TEMPER ATURE CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Specification	Derating if the temperature ≥85°C	-40		105	℃
Storage		-55		130	℃
Cooling	Free air convection				

TEMPERATURE DERATING GRAPHS

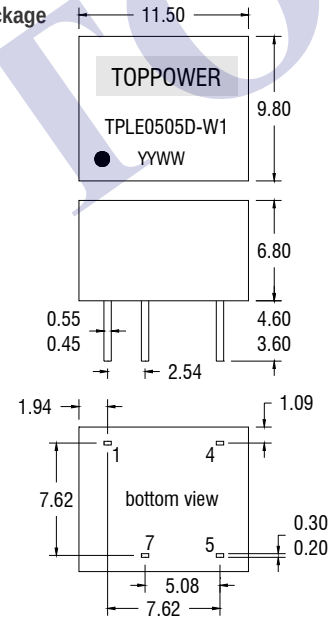


TOLERANCE ENVELOPES

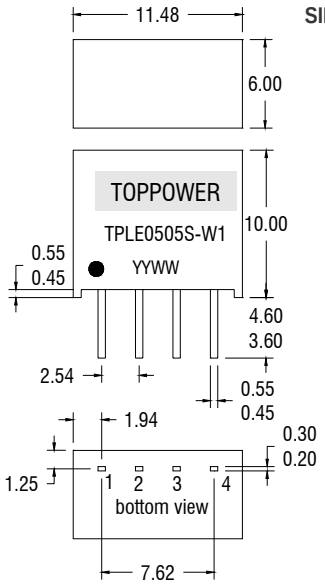


MECHANICAL DIMENSIONS

DIP Package



SIP Package



All dimensions in mm ±0.25mm. All pins on a 0.54 mm pitch and within ±0.25mm of true position.
Weight: 1.30g(SIP), 1.48g(DIP)

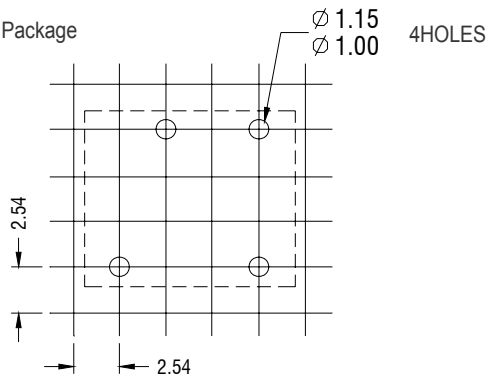
PIN CONNECTIONS

8 PIN DIP	
Pin	Function
1	-Vin
4	+Vin
5	+Vout
7	-Vout

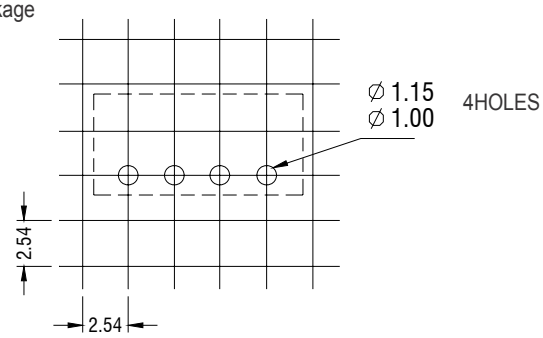
4 PIN SIP	
Pin	Function
1	-Vin
2	+Vin
3	-Vout
4	+Vout

RECOMMENDED FOOTPRINT DETAILS

8Pin DIP Package

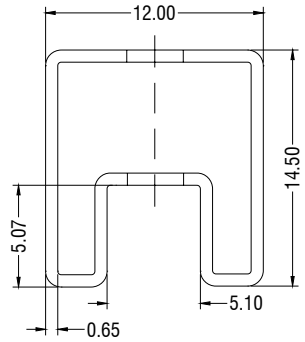


4Pin SIP Package

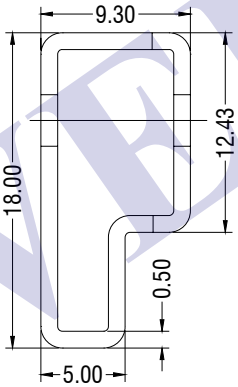


TUBE OUTLINE DIMENSIONS

8Pin DIP Tube



4Pin SIP Tube



Unless otherwise stated all dimensions in mm ±0.5mm.

Tube length (8 Pin DIP) :520mm ±2mm.

Tube length (4 Pin SIP) : 520mm ±2mm.

Tube Quantity : 35PCS