


DESCRIPTION :
3W 1.5KVDC Isolated Single Output DC/DC Converters

The TPE-3W series are miniature, isolated 3W DC/DC converters in a SIP 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.

FEATURES

RoHS compliant	Single isolated output	SIP:1.5KVDC isolation
Efficiency up to 81%	Operating temperature :-40°C to 105°C	Power density 2.0W/cm ³
UL 94V-0 package material	Footprint from 1.05cm ²	Industry standard pinout
Input voltage: 3.3V, 5V, 12V ,15V	Output voltage:3.3V,5V, 7.2V,9V, 12V, 15V & 24V	CE certification

SELECTION GUIDE

Part Number	Nominal Input Voltage	Output Voltage	Output Current (Max./Min)	Efficiency	Package Style
	V	V	mA	%	
TPE0303S-3W	3.3	3.3	909/90.9	72	SIP
TPE0305S-3W	3.3	5	600/60	74	SIP
TPE0503S-3W	5	3.3	909/90.9	72	SIP
TPE0505S-3W	5	5	600/60	70	SIP
TPE0507S-3W	5	7.2	420/42	70	SIP
TPE0509S-3W	5	9	333/33.3	78	SIP
TPE0512S-3W	5	12	250/25	78	SIP
TPE0515S-3W	5	15	200/20	80	SIP
TPE0524S-3W	5	24	125/12.5	79	SIP
TPE1203S-3W	12	3.3	909/90.9	72	SIP
TPE1205S-3W	12	5	600/60	71	SIP
TPE1207S-3W	12	7.2	420/42	71	SIP
TPE1209S-3W	12	9	333/33.3	73	SIP
TPE1212S-3W	12	12	250/25	76	SIP
TPE1215S-3W	12	15	200/20	74	SIP
TPE1505S-3W	15	5	600/60	71	SIP
TPE1509S-3W	15	9	333/33.3	73	SIP
TPE1512S-3W	15	12	250/25	76	SIP
TPE1515S-3W	15	15	200/20	74	SIP

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Voltage range	3.3V input	2.9	3.3	3.6	V
Voltage range	5V input	4.5	5.0	5.5	V
Voltage range	12V input	10.8	12.0	13.2	V
Voltage range	15V input	13.4	15	16.4	V
Reflected ripple current			26	48	mA p-p

ISOLATION CHARACTERISTICS

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

OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Rated Power	TA= - 40°C to 85°C			1.0	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		14	15	%

OUTPUT CHARACTERISTICS

Load Regulation (10%load to rated load)	5V output		14	15	%
Load Regulation (10%load to rated load)	7V output		9	10	%
Load Regulation (10%load to rated load)	9V output		9	10	%
Load Regulation (10%load to rated load)	12V output		7.5	9.5	%
Load Regulation (10%load to rated load)	15V output		7.0	8.5	%
Load Regulation (10%load to rated load)	24V output		5.5	7.5	%

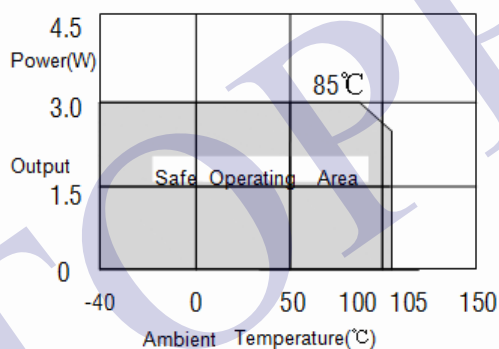
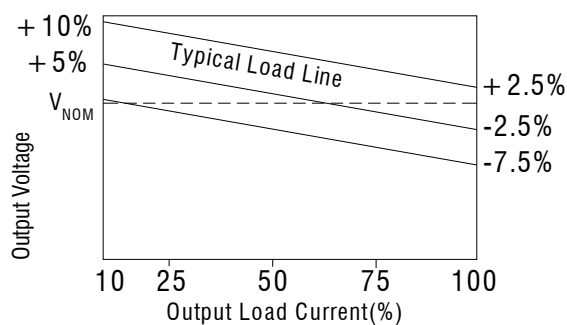
All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

GENERAL CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Switching frequency	3.3V input		95		kHz
Switching frequency	5V input		110		kHz
Switching frequency	12V input		145		kHz
Switching frequency	15V input		145		kHz

TEMPERATURE CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Specification	Derating if the temperature $\geq 85^{\circ}\text{C}$	-40		105	$^{\circ}\text{C}$
Storage		-55		150	$^{\circ}\text{C}$
Case Temperature above ambient	5V output			41	$^{\circ}\text{C}$
Case Temperature above ambient	All other output			32	$^{\circ}\text{C}$
Cooling	Free air convection				

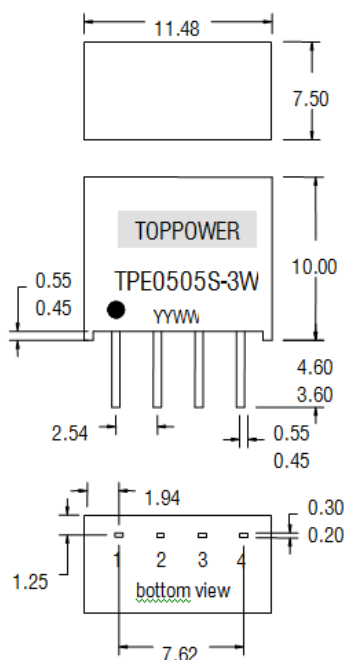
TEMPERATURE DERATING GRAPHS

TOLERANCE ENVELOPES

SOLDERING INFORMATION

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

MECHANICAL DIMENSIONS

PIN CONNECTIONS

SIP Package

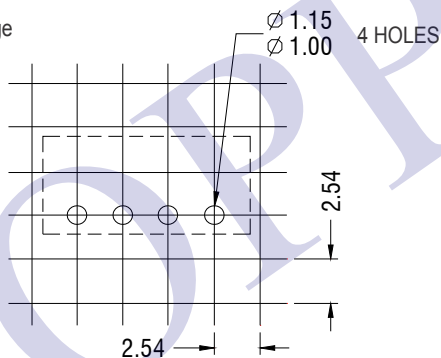


4 PIN SIP	
Pin	Function
1	-Vin
2	+Vin
3	-Vout
4	+Vout

All dimensions in mm ± 0.25 mm. All pins on a 2.54 mm pitch and within ± 0.25 mm of true position
Weight: 1.40g (SIP)

RECOMMENDED FOOTPRINT DETAILS

4Pin SIP Package



TUBE OUTLINE DIMENSIONS

4Pin SIP Tube

Unless otherwise stated all dimensions in mm ± 0.5 mm.

Tube length (4 Pin SIP) : 520mm ± 2 mm.

Tube Quantity : 17PCS/35PCS

