



DESCRIPTION: 1W 3KVDC Isolated Twin Output DC/DC Converters

The PPD series are miniature, isolated 1W 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, CE certification	Twin independent output	Input/output isolation 3KVDC
Output/output isolation 3KVDC	Power sharing on output	Efficiency to 80%
UL 94V-0 package material	Footprint from 1.17cm ²	Input voltage: 5V, 12V, 24V
Output one: 5V,9V,12V,15V	Output two: 3.3V, 5V, 9V, 12V, 15V	Operating temperature: -40°C to 105°C

SELECTION GUIDE

Part Number	Nominal Input Voltage	Output Voltage 1	Output Voltage 2	Output Current 1	Output Current 2	Efficiency	Package Style
	V	V	V	mA	mA	%	
PPD050503D	5	5	3.3	100	151	69	DIP
PPD050505D	5	5	5	100	99	70	DIP
PPD050509D	5	5	9	100	55	79	DIP
PPD050512D	5	5	12	100	41	80	DIP
PPD050515D	5	5	15	100	35	79	DIP
PPD050503S	5	5	3.3	100	151	70	SIP
PPD050505S	5	5	5	100	99	70	SIP
PPD050509S	5	5	9	100	55	79	SIP
PPD050512S	5	5	12	100	41	80	SIP
PPD050515S	5	5	15	100	35	80	SIP
PPD050909D	5	9	9	56	56	76	DIP
PPD051212D	5	12	12	42	42	77	DIP
PPD051212S	5	12	12	42	42	77	SIP
PPD051515S	5	15	15	33	33	78	SIP
PPD120505D	12	5	5	100	99	70	DIP
PPD120509D	12	5	9	100	55	80	DIP
PPD120512D	12	5	12	100	41	80	DIP
PPD120515D	12	5	15	100	35	79	DIP
PPD120505S	12	5	5	100	99	70	SIP
PPD120509S	12	5	9	100	55	80	SIP
PPD120512S	12	5	12	100	41	79	SIP
PPD120515S	12	5	15	100	35	80	SIP
PPD120909S	12	9	9	56	56	78	SIP
PPD121212S	12	12	12	42	42	78	SIP
PPD121515S	12	15	15	33	33	80	SIP
PPD120909D	12	9	9	56	56	78	DIP
PPD240505S	24	5	5	100	99	71	SIP
PPD240909S	24	9	9	56	56	74	SIP
PPD241212S	24	12	12	42	42	76	SIP
PPD241515S	24	15	15	33	33	76	SIP
PPD240505D	24	5	5	100	100	71	DIP
PPD240909D	24	9	9	56	56	74	DIP
PPD241212D	24	12	12	42	42	76	DIP
PPD241515D	24	15	15	33	33	73	DIP

Add suffix "P" for continuous short circuit protection, for example PPD050505SP. Add suffix "N" Define different output pin, for example PPD050505S/N.

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
Voltage range	24V input types	22	24	26.5	V

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 (voltage variation +/-5%)		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°C
Input voltage Vin, PPD05 variants	6.5V
Input voltage Vin, PPD12 variants	14.5V
Input voltage Vin, PPD24 variants	28V

All specifications typical at TA=25°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

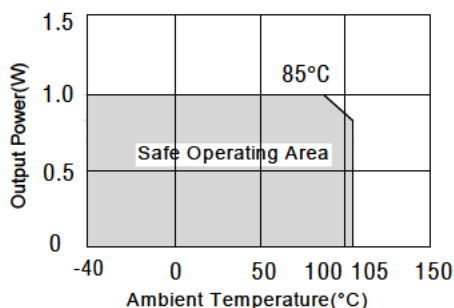
GENERAL CHARACTERISTICS

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

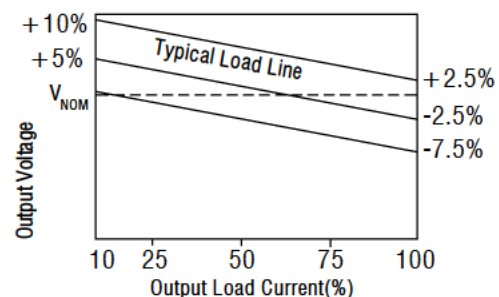
TEMPERATURE CHARACTERISTICS

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

TEMPERATURE DERATING GRAPHS



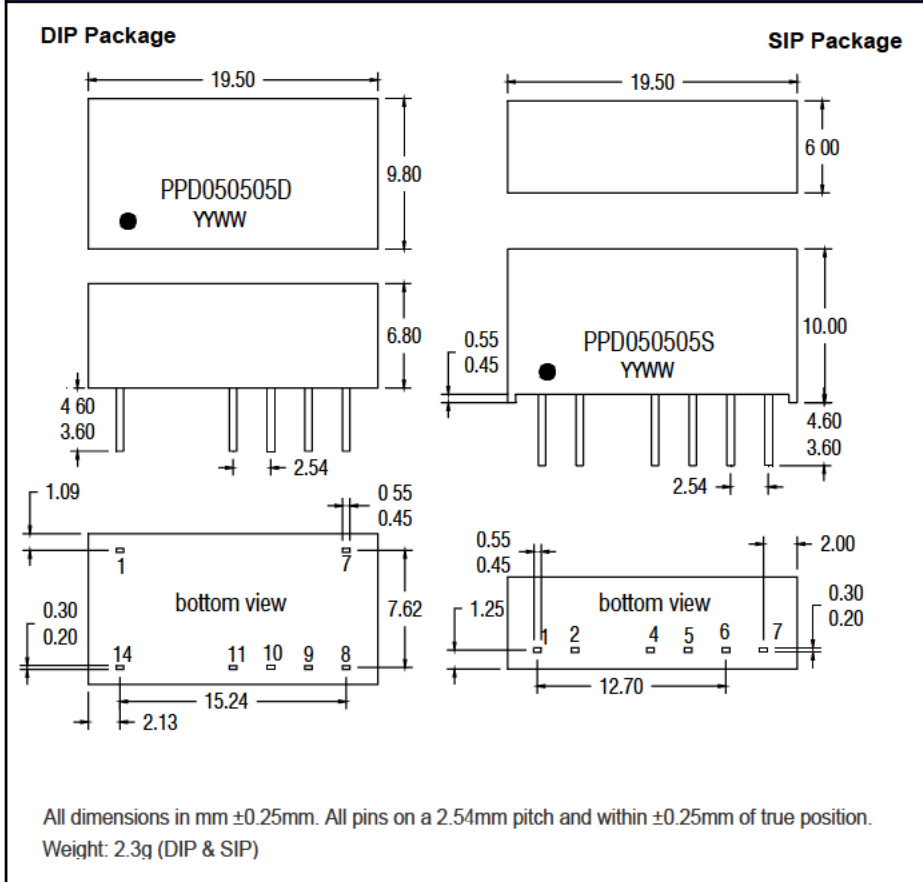
TOLERANCE ENVELOPES



SOLDERING INFORMATION

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

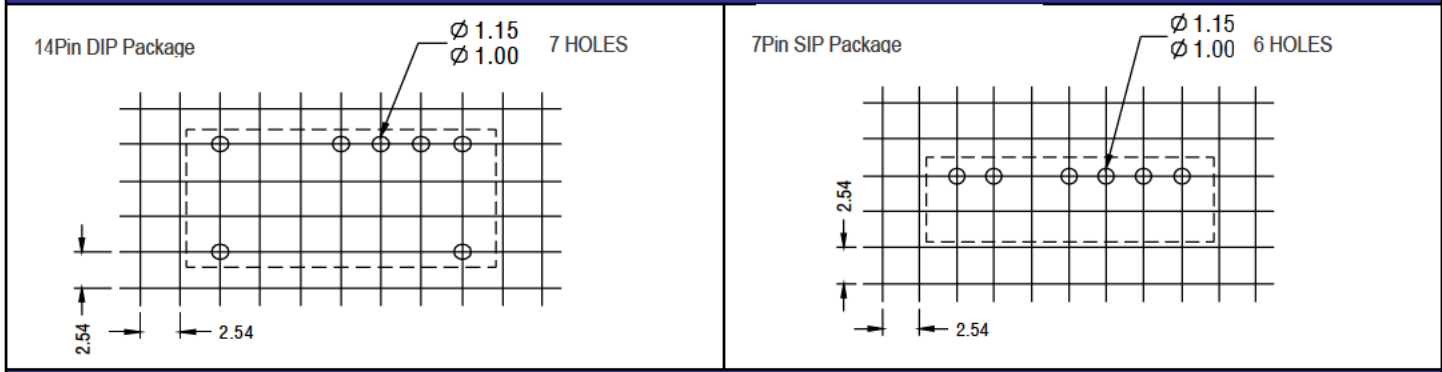
MECHANICAL DIMENSIONS PIN CONNECTIONS



14 PIN DIP		
Pin	Function	Add suffix "N" function
1	-Vin	-Vin
7	NC	NC
8	-Vout2	+Vout2
9	+Vout2	-Vout2
10	-Vout1	+Vout1
11	+Vout1	-Vout1
14	+Vin	+Vin

7 PIN SIP		
Pin	Function	Add suffix "N" function
1	+Vin	+Vin
2	-Vin	-Vin
4	+Vout1	-Vout1
5	-Vout1	+Vout1
6	+Vout2	-Vout2
7	-Vout2	+Vout2

RECOMMENDED FOOTPRINT DETAILS



TUBE OUTLINE DIMENSIONS

