

5W DC-DC Converter P5D-Series



- Wide 2:1 input range
- Up to 3500 V_{DC} isolation
- Continuous short circuit protection
- MTBF 1.12 M hours



Model selection guide

Typ	Input voltage range [V _{DC}]	Input quiescent current [mA]	Output voltage [V _{DC}]	Output current [mA]	Efficiency typ. [%]	Capacitive Load [μF]
Single output						
P5D123R3S	9...18	20	3.3	1300	73	1000
P5D1205S	9...18	20	5.0	1000	75	1000
P5D1209S	9...18	20	9.0	555	78	680
P5D1212S	9...18	20	12.0	417	81	330
P5D1215S	9...18	20	15.0	333	80	220
P5D1224S	9...18	20	24.0	208	80	68
P5D243R3S	18...36	15	3.3	1300	75	1000
P5D2405S	18...36	15	5.0	1000	78	1000
P5D2409S	18...36	15	9.0	555	80	680
P5D2412S	18...36	15	12.0	417	82	330
P5D2415S	18...36	15	15.0	333	82	220
P5D2424S	18...36	15	24.0	208	82	68
P5D483R3S	36...72	8	3.3	1300	73	1000
P5D4805S	36...72	8	5.0	1000	77	1000
P5D4809S	36...72	8	9.0	555	79	680
P5D4812S	36...72	8	12.0	417	80	330
P5D4815S	36...72	8	15.0	333	80	220
P5D4824S	36...72	8	24.0	208	80	68
Dual output						
P5D123R3D	9...18	20	±3.3	±750	73	2 x 680
P5D1205D	9...18	20	±5.0	±500	77	2 x 330
P5D1209D	9...18	20	±9.0	±278	80	2 x 220
P5D1212D	9...18	20	±12.0	±208	80	2 x 100
P5D1215D	9...18	20	±15.0	±167	79	2 x 47
P5D1224D	9...18	20	±24.0	±104	80	2 x 33
P5D243R3D	18...36	15	±3.3	±750	75	2 x 680
P5D2405D	18...36	15	±5.0	±500	78	2 x 330
P5D2409D	18...36	15	±9.0	±278	80	2 x 220
P5D2412D	18...36	15	±12.0	±208	80	2 x 100
P5D2415D	18...36	15	±15.0	±167	80	2 x 47
P5D2424D	18...36	15	±24.0	±104	80	2 x 33
P5D483R3D	36...72	8	±3.3	±750	73	2 x 680
P5D4805D	36...72	8	±5.0	±500	79	2 x 330
P5D4809D	36...72	8	±9.0	±278	79	2 x 220
P5D4812D	36...72	8	±12.0	±208	80	2 x 100
P5D4815D	36...72	8	±15.0	±167	80	2 x 47
P5D4824D	36...72	8	±24.0	±104	80	2 x 33

Input voltage range reach from 9V to 72V and the output voltage range reach from 3.3V to 24V
 Suffix: "H" for 3.5kV isolation voltage

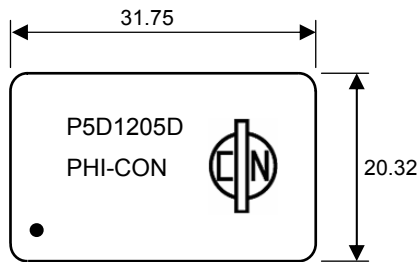
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Specifications

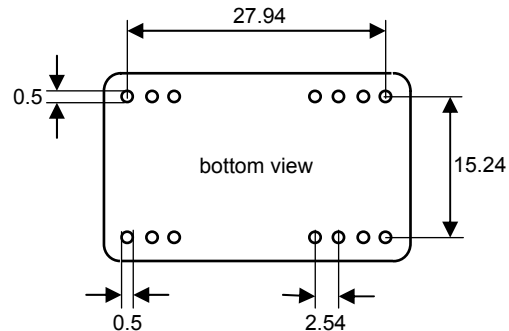
Input	
Voltage range	12 V _{DC} , 9...18 V _{DC} 24 V _{DC} , 18...36 V _{DC} 48 V _{DC} , 36...72 V _{DC}
Filter	Pi Network
Isolation:	
Rated voltage	1500 V _{DC} , Standard 3500 V _{DC} , Suffix "H"
Resistance	10 ⁹ Ω
Capacitance	470 pF, typ.
Output	
Voltage accuracy	± 1%
Voltage balance (dual outputs)	± 1%
Ripple and noise (at 20 MHz BW)	60 mVp-p, max.
Over current protection	120% of max. I _{out}
Short circuit protection	Continuous
Short circuit restart	Automatic
Line voltage regulation	± 0.5%, max.
Load voltage regulation	± 0.5%, max.
Temperature coefficient	± 0.02% / °C

General	
Efficiency	73% to 82%
Switching frequency	100 kHz...400 kHz
Safety Standard in accordance with	IEC 60950-1:2001
Environmental	
Operating temperature (ambient)	-40 °C to +71 °C
Case temperature	100 °C max.
Storage temperature	-40 °C to +125 °C
Derating	None required
Humidity	Up to 95%, non-condensing
Cooling	Free-air convection
Physical	
Potting Material	Epoxy (UL94V-0 rated)
Dimensions	31.75 x 20.32 x 10.16 mm
Weight	17 g
Soldering temperature	260°C for 10 s 1.5mm distance from case

Dimensions



All dimensions in mm
Tolerance ±0.25 mm



Pin connections

Pin	Standard		3.5 kV _{DC}	
	Single	Dual	Single	Dual
1	+V Input	+V Input	Omitted	Omitted
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	Omitted	Omitted	Omitted	Common
10	-V Output	Common	Omitted	Omitted
11	+V Output	+V Output	N.C.	-V Output
12	-V Input	-V Input	Omitted	Omitted
13	-V Input	-V Input	Omitted	Omitted
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	Omitted	Omitted
16	Omitted	Omitted	-V Output	Common
22	N.C.	Common	+V Input	+V Input
23	N.C.	-V Output	+V Input	+V Input
24	+V Input	+V Input	Omitted	Omitted



Life Support Policy: HY-LINE does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user. Rev: 04.07 f