

15W DC-DC Converter P15B-Series



PHI-CON

- Output current up to 4A
- 15 W maximum output power
- 2:1 wide input voltage range
- International safety approval
- Six-Sided continuous shield
- High efficiency up to 88%
- Standard 2" x 1" x 0.4" package
- Fixed switching frequency



Model selection guide

Typ	Input nominal voltage [V _{DC}]	Input current full-load [mA]	Output voltage [V _{DC}]	Output current [mA]	Efficiency typ. [%]	Capacitor load max. [uF]
Single output						
P15B12S33	9 ... 18	1467	3.3	4000	79	10200
P15B12S05	9 ... 18	1603	5	3000	82	7050
P15B12S12	9 ... 18	1524	12	1250	86	1035
P15B12S15	9 ... 18	1524	15	1000	86	705
P15B24S33	18 ... 36	724	3.3	4000	80	10200
P15B24S05	18 ... 36	781	5	3000	84	7050
P15B24S12	18 ... 36	772	12	1250	85	1035
P15B24S15	18 ... 36	772	15	1000	85	705
P15B48S33	36 ... 75	357	3.3	4000	81	10200
P15B48S05	36 ... 75	396	5	3000	83	7050
P15B48S12	36 ... 75	377	12	1250	87	1035
P15B48S15	36 ... 75	381	15	1000	86	705
Dual output						
P15B12D05	9 ... 18	1582	±5	±1500	83	2 x 1020
P15B12D12	9 ... 18	1524	±12	±625	86	2 x 495
P15B12D15	9 ... 18	1524	±15	±500	84	2 x 165
P15B24D05	18 ... 36	781	±5	±1500	84	2 x 1020
P15B24D12	18 ... 36	762	±12	±625	85	2 x 495
P15B24D15	18 ... 36	762	±15	±500	86	2 x 165
P15B48D05	36 ... 75	386	±5	±1500	85	2 x 1020
P15B48D12	36 ... 75	372	±12	±625	88	2 x 495
P15B48D15	36 ... 75	377	±15	±500	87	2 x 165

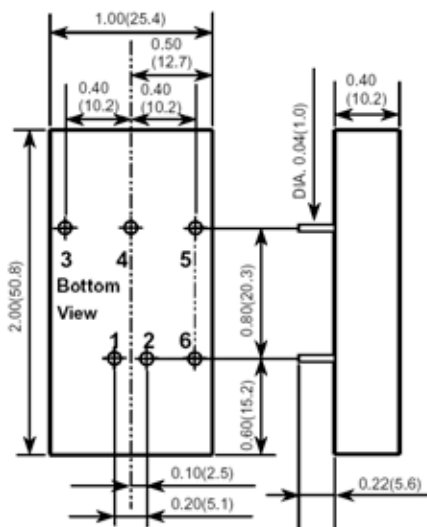
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Specifications

Input	
Voltage range	9..18, 18..36, 36..75V _{DC}
Filter	π Pi type
Input surge voltage for 100mS max.	12V type : 36 V _{DC} max. 24V type : 50 V _{DC} max. 48V type : 100 V _{DC} max.
Remote CTRL (Option)	On: open or 3.5..12 V _{DC} Off : 0...1.2 V _{DC}
Positive logic Suffix "P"	On : 0...1.2 V _{DC} Off: open or 3.5..12 V _{DC}
Negative logic Suffix "N"	On : 0...1.2 V _{DC} Off: open or 3.5..12 V _{DC}
Remote CTRL input current	-2.5mA
Remote CTRL input reference	-Input
Output	
Power	15W max
Voltage accuracy	± 1%
Ripple and noise (at 20 MHz BW)	Single type: 50mVp-p Dual type: 75mVp-p
Short circuit protection	Hiccup, automatic recovery
Line voltage regulation	± 1%
Load voltage regulation 10% to full load	single: ± 1% dual: ±2%
Transient response recovery time	500µs at 25% load chance time
Temperature coefficient	± 0.02% / °C
Minimum load	10% to maintain the specified regulation

General	
Efficiency	See table
Switching frequency	Single output 500 kHz, typ Dual output 300 kHz, typ.
Isolation voltage	1600 V _{DC}
Isolation Resistance	10 ⁹ Ω
Isolation Capacitance	300 pF, typ.
Environmental	
Operating temperature	-40 °C to +85 °C (with derating)
Storage temperature	-55 °C to +105 °C
Maximum case temp.	+100 °C
Thermal impedance	12°C/W
Vibration	2G, 10-55Hz, 30 min., XYZ-axis
Humidity	5% to 95% RH
Cooling	Free-air convection
Physical	
Dimensions	1 x 2 inches 50.8x10.2x25.4 mm
Weight	27 g
Case material	Nickel-coated copper

Dimensions

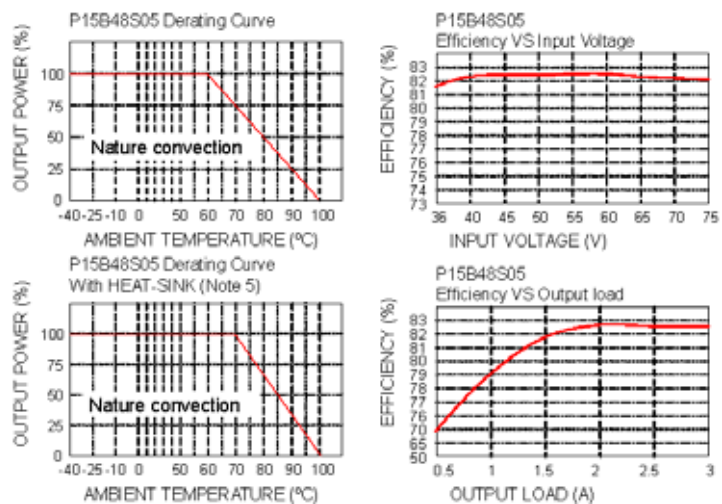


All dimensions in inches (mm)
 Pin Pitch tolerance ±0.014 (0.35)

Pin connections

Pin	Single	Dual
1	+ Input	+ Input
2	- Input	- Input
3	+ Output	+ Output
4	No pin	Common
5	- Output	- Output
6	CTRL (Option)	CTRL (Option)

Derating



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.
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