

3W DC-DC Converter P3Z-Series



- 3 W Regulated output power
- 2:1 Wide input voltage range
- International safety standard approval
- Five-Sided shield
- High efficiency up to 80%
- Standard 24 pin DIP package
- Over current protection
- Output 1 to output 2 isolation



Model selection guide

Typ	Input		Output 1			Output 2		
	nominal voltage [V _{DC}]	current full load [mA]	voltage [V _{DC}]	current [mA]	capacitor load max. [μF]	voltage [V _{DC}]	current [A]	capacitor load max. [μF]
Dual separate output								
P3Z12DS05	9...18	293	5	250	470	5	250	470
P3Z12DS12	9...18	329	12	125	100	12	125	100
P3Z12DS15	9...18	329	15	100	68	15	100	68
P3Z24DS05	18...36	147	5	250	470	5	250	470
P3Z24DS12	18...36	169	12	125	100	12	125	100
P3Z24DS15	18...36	169	15	100	68	15	100	68
P3Z48DS05	36...75	75	5	250	470	5	250	470
P3Z48DS12	36...75	86	12	125	100	12	125	100
P3Z48DS15	36...75	86	15	100	68	15	100	68

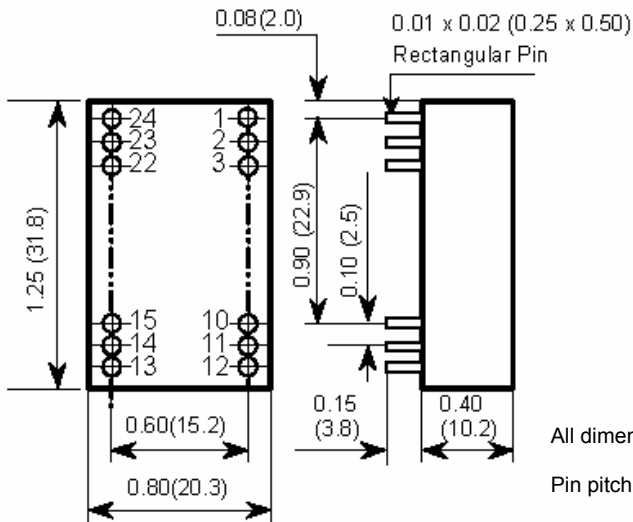
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Specifications

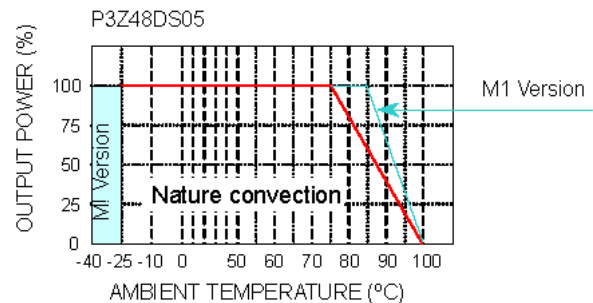
Input		
Voltage range	12V type 24V type 48V type	9-18 V _{DC} 18-36 V _{DC} 36-75 V _{DC}
Filter (see note 1)		Pi type
Surge voltage 100mS max.	12V type 24V type 48V type	36 V _{DC} 50 V _{DC} 100 V _{DC}
Start up time		350 mS typ.
Output		
Output Power		3 W max.
Voltage accuracy full load and nominal V _{in}		±2%
Ripple and noise (at 20 MHz BW)		50mV _{pp}
Line voltage regulation LL to HL at full load		±0.2%
Load voltage regulation		±1% @ 25% to 100% load
Cross regulation		±5% @ 25%/100% load
Temperature coefficient		± 0.02% / °C, max
Transient response recovery time 25% load step change		200µs
Short circuit protection		Continuous, automatic recovery
Over load protection		180% typ. of full load
Minimum load		10% of full load

General		
Efficiency		See table
Switching frequency		300 kHz, typ.
Environmental		
Operating temperature		-25°C to +85°C (with derating) more efficient version suffix "M1" -40°C to +85°C (non derating)
Storage temperature range		-55 °C to +105 °C
Maximum case temp.		+100 °C
Thermal impedance		20°C/W
Relative humidity		5% to 95%
Vibration		10-55Hz, 2G, 30min. X,Y and Z axis
Physical		
Dimensions		1.25 x 0.8 x 0.4 inches 31.8 x 20.8 x 10.2 mm
Weight		16 g
Case material		Nickel-coated copper
Base material		Non-conductive black plastic
Potting material		Epoxy (UL94-V0)
Isolation		
Isolation voltage	input to output output to output	500 V _{DC} , min. 500 V _{DC} , min.
Resistance		
		10 ⁹ Ω, min.
Capacitance		
		300pF, max
Reliability		
MTBF		3.069x10 ⁶ hrs @ 50% stress and temperature 40°C
BELLCORE TR-NMT-0003 32		

Dimensions



Derating



All dimensions in inches (mm)

Pin pitch tolerance ±0.014 (0.35)

Pin connections

Pin	Dual
1 / 24	+ Input
2 / 23	- V1 out
3 / 22	+ V1 out
10 / 15	- V2 out
11 / 14	+ V2 out
12 / 13	- Input

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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