

PDL06W SERIES

DC/DC Converter Single & Dual Output: 6 Watts



Features

- 4:1 Input voltage range
- Input voltage options: 9~36V & 18~75V
- Single & Dual outputs
- Fixed switching frequency 580KHz
- Industry Standard SIP package
- High efficiency up to 87%
- Regulated output & Short circuit protection
- 1600V isolation, optional 3000VDC, Suffix "H"
- Low ripple & Noise
- External ON/OFF control

Specifications:

Input Voltage	24VDC (9 ~ 36) 48VDC (18 ~75)	Efficiency	Model dependant 84 ~ 87%
Input Filter	Capacitor type	Isolation	1600VDC (1min) 3000VDC Suffix "H"
Input Surge Voltage. (100mS)	12V : 36VDC, 24V: 50VDC. 48V: 100VDC	Isolation- Option (Metal case)	1600VDC (1min) Suffix "M"
Input Reflected Ripple Current	24V input 20mA p-p 48V input 84mA p-p	Isolation Cap.	50pF
Start Up time	30mS typical constant resistive load	Switching Freq.	100KHz
Remote ON/OFF	DC-DC ON Open or high impedance DC-DC OFF Control pin applied current 2~ 4mA max via 1Kohm (ref -VE input)	Safety	EN60950-1, UL60950-1
Output power	6 watts	Case Material	Std-Non-conductive black plastic "H"-Non-conductive black plastic "M"-Copper
Voltage Accuracy	±1.0%	Base Material	None
Minim Load	zero	Potting	Epoxy UL94-V0
Line Regulation	±0.2%	Dimensions	21.8 x 9.2 x 11.2mm
Load Regulation	Typically ±1%, 5% to 100% load	Weight	4.8g (suffix M 5.9g)
Cross Regulation	±5% Asymmetrical load: 25-100% load)	MTBF	8.408 x 10 ⁵ Hrs
Ripple & noise	20MHZ bandwith 3 ~9Vout, typically 75 -100mVp-p 12~15Vout, typically 100-125mVp-p 24Vout, typically 100-1125mV	Operating Temp	-40°C to +71°C (without derating) +71°C to 100°C with derating
Temp. Coefficient	±0.02% / °C	Thermal shock	MIL-STD-810F
Transient Response	250uS (25% load step change)	Vibration	10-55Hz, 10G, 30min along X, Y, Z
Overload Protection	Typically 180% of load	Humidity	5-95% RH
Short Circuit protection	Continuous hicc-up mode	EMC	EN55022 Class A (Note 1) Consult office for Class B design
		ESD	EN61000-4-2
		Radiated Immunity	EN61000-4-3
		Fast Transients	EN61000-4-4
		Surge	EN61000-4-5
		Conducted Immunity	EN61000-4-6

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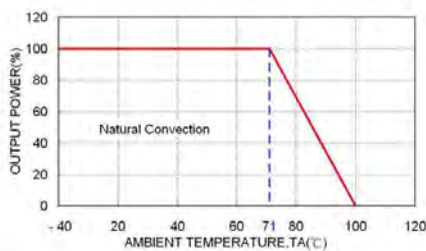
Model Number	Input Range	Output Voltage	Output Current @ Full Load	Input Current @ No Load	Efficiency	Maximum Capacitor Load
	VDC	VDC	mA	mA	%	μF
PDL06-24S3P3W	9 ~ 36	3.3	1500	4	81	4700
PDL06-24S05W	9 ~ 36	5	1200	4	84	2200
PDL06-24S09W	9 ~ 36	9	666	4	86	1400
PDL06-24S12W	9 ~ 36	12	500	4	87	1100
PDL06-24S15W	9 ~ 36	15	400	4	88	1000
PDL06-24S24W	9 ~ 36	24	250	4	87	470
PDL06-24D05W	9 ~ 36	±5	±600	6	84	±1400
PDL06-24D12W	9 ~ 36	±12	±250	6	87	±660
PDL06-24D15W	9 ~ 36	±15	±200	8	87	±470
PDL06-48S3P3W	18 ~ 75	3.3	1500	4	81	4700
PDL06-48S05W	18 ~ 75	5	1200	4	84	2200
PDL06-48S09W	18 ~ 75	9	666	4	85	1400
PDL06-48S12W	18 ~ 75	12	500	4	87	1100
PDL06-48S15W	18 ~ 75	15	400	4	87	1000
PDL06-48S24W	18 ~ 75	24	250	4	87	470
PDL06-48D05W	18 ~ 75	±5	±600	6	84	±1400
PDL06-48D12W	18 ~ 75	±12	±250	6	87	±660
PDL06-48D15W	18 ~ 75	±15	±200	8	87	±470

Note:

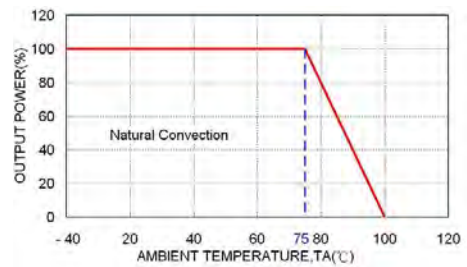
1. The PDL06W series meet EN55022 Class A with external filter.
2. An external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5. The filter Power Mate suggested: TBD.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

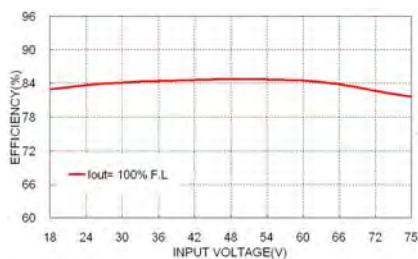
CHARACTERISTIC CURVE



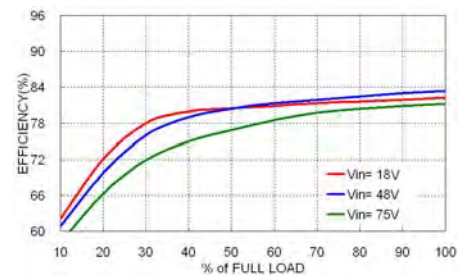
PDL06-48S05W Derating Curve



PDL06-48S05W-M Derating Curve



PDL06-48S05W Efficiency VS Input Voltage



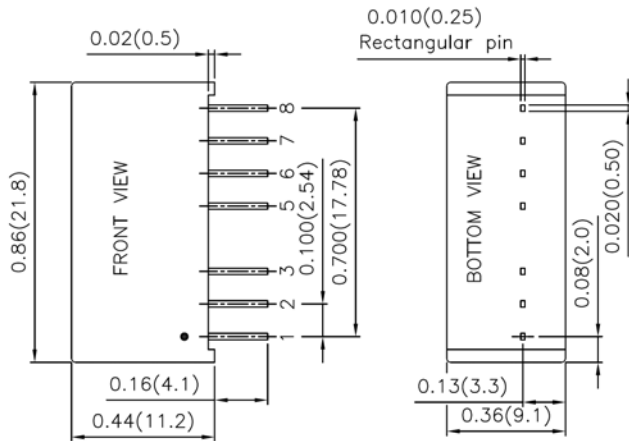
PDL06-48S05W Efficiency VS Output Load

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MECHANICAL DRAWING

Standard plastic case



Pin Connection		
PIN	SINGLE	DUAL
1	-INPUT	-INPUT
2	+INPUT	+INPUT
3	CTRL	CTRL
5	NC*/NO PIN**	NC*/NO PIN**
6	+OUTPUT	+OUTPUT
7	-OUTPUT	COMMON
8	NC	-OUTPUT

*NC pin for standard.

**NO pin for 3KV isolation. (P/N suffix "H")

1. All dimensions in Inch (mm)

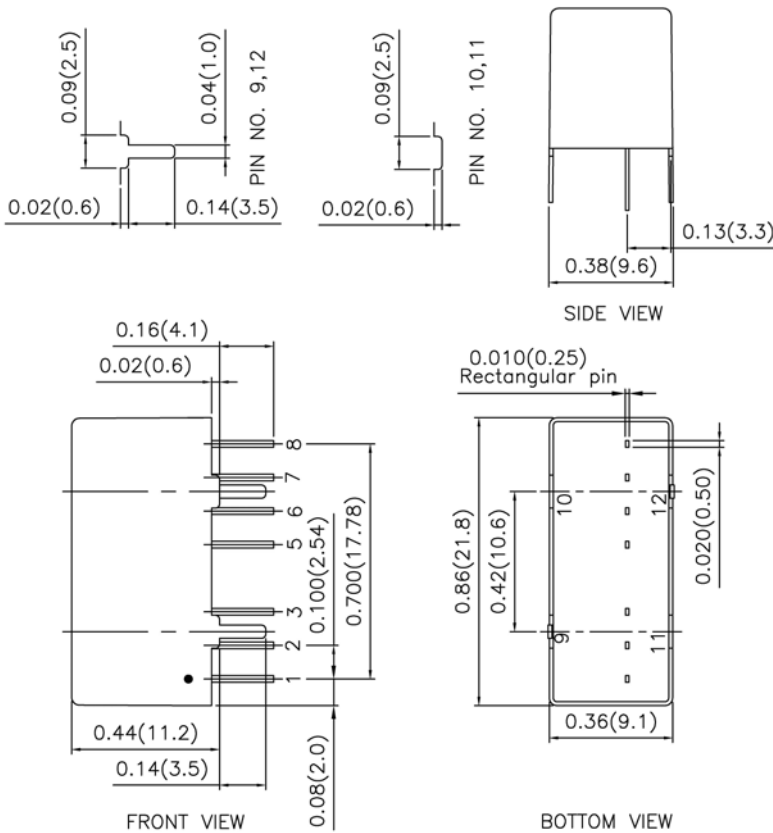
Tolerance: X.XX±0.02 (X.X±0.5)

X.XXX±0.01 (X.XX±0.25)

2. Pin pitch tolerance ±0.01(0.25)

3. Pin dimension tolerance ±0.004 (0.1)

Option suffix "M" metal case



Pin Connection		
PIN	SINGLE	DUAL
1	-INPUT	-INPUT
2	+INPUT	+INPUT
3	CTRL	CTRL
5	NC	NC
6	+OUTPUT	+OUTPUT
7	-OUTPUT	COMMON
8	NC	-OUTPUT
9	CASE	CASE
10	STAND OFF	STAND OFF
11	STAND OFF	STAND OFF
12	CASE	CASE

1. All dimensions in Inch (mm)

Tolerance: X.XX±0.02 (X.X±0.5)

X.XXX±0.01 (X.XX±0.25)

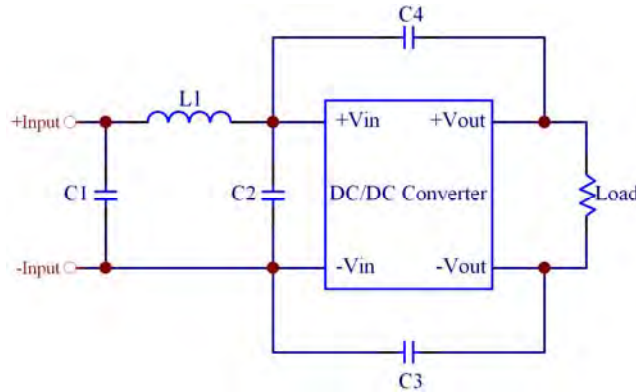
2. Pin pitch tolerance ±0.01(0.25)

3. Pin dimension tolerance ±0.004 (0.1)

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Recommended EMI Filter:



The components used in the above figure, together with the manufacturers' part numbers for these components, are as follows:

EN55022 Class A

	C1 & C2	C3 & C4	L1
PDL06-24xxxW	10 μ F/50V 1210 MLCC	331pF/3kV 1808 MLCC	10 μ H 0504 SMD Inductor PMT-047
PDL06-48xxxW	2.2 μ F/100V 1812 MLCC	331pF/3kV 1808 MLCC	15 μ H 0504 SMD Inductor PMT-089