

APPLICATIONS

Wireless Network
Telecom/Datacom
Industry Control System
Measurement Equipment
Semiconductor Equipment

FEATURES

- 3 WATTS MAXIMUM OUTPUT POWER
- OUTPUT CURRENT UP TO 700mA
- SIP PACKAGE, 0.86 x 0.36x 0.44 INCH
- HIGH EFFICIENCY UP TO 82%
- 4:1 ULTRA WIDE INPUT VOLTAGE RANGE
- SWITCHING FREQUENCY (100kHz, min)
- LOW RIPPLE & NOISE
- UL94-V0 CASE POTTING MATERIALS
- INPUT TO OUTPUT ISOLATION: 1600VDC
- CONTINUOUS SHORT CIRCUIT PROTECTION
- EXTERNAL ON/OFF CONTROL
- CE MARK MEETS 2006/95/EC, 2011/95/EC AND 2004/108/EC
- SAFETY MEETS UL60950-1, EN60950-1 AND IEC60950-1
- ISO9001 CERTIFIED MANUFACTURING FACILITIES
- COMPLIANT TO RoHS EU DIRECTIVE 2011/65/EU

OPTIONS

3000VDC ISOLATION

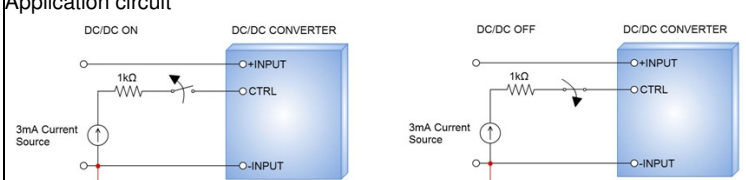
DESCRIPTION

The PDL03W series offer 3 watts of output power from a 0.86 x 0.36 x 0.44 inch package without derating to 71°C. The PDL03W series have 4:1 ultra wide input voltage of 4.5~18 9~36 and 18~75VDC and features 1600VDC of isolation, short-circuit protection.

TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

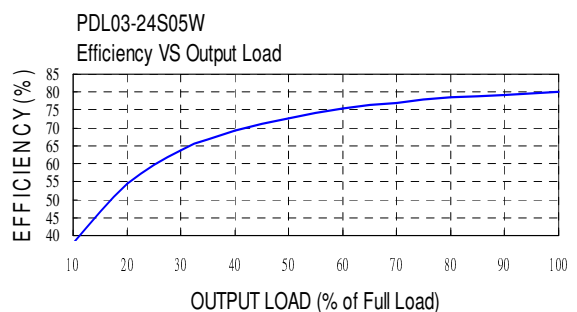
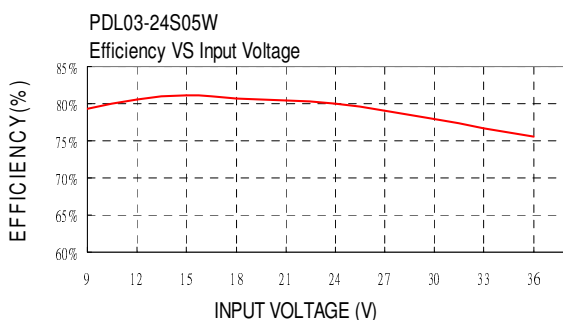
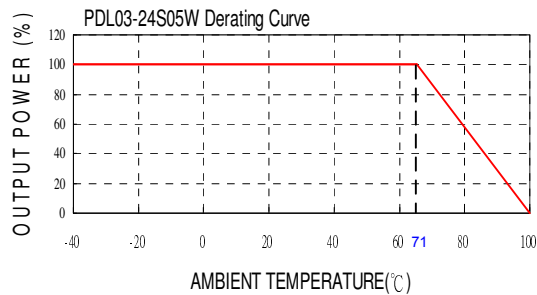
OUTPUT SPECIFICATIONS			
Output power	3 Watts, max.		
Voltage accuracy	± 1%		
Minimum load	0%		
Line regulation	LL to HL at Full Load	± 0.2%	
Load regulation	Single	No Load to Full load	± 1%
		5% load to 100% load	± 0.5%
Cross regulation (Dual)	Dual	No Load to Full Load	± 1%
		Asymmetrical load 25%/100% FL	±5%
Ripple and noise	20MHz bandwidth	See table	
Temperature coefficient	±0.02% / °C, max.		
Transient response recovery time	25% load step change	250us	
Short circuit protection	Continuous, automatic recovery		
GENERAL SPECIFICATIONS			
Efficiency	See table		
Isolation voltage	Standard	1600VDC, min.	1minute
	Suffix "H"	3000VDC, min.	1minute
Isolation resistance	500VDC	10 ⁹ ohms, min.	
Isolation capacitance	Standard	200pF, max.	
	Suffix "H"	40pF, max.	
Switching frequency	Full load to minimum load	100kHz, min.	
Design meet safety standard	IEC60950-1, UL60950-1, EN60950-1		
Case material	Non-conductive black plastic		
Base material	None		
Potting material	Silicon (UL94-V0)		
Dimensions	0.86 X 0.36 X 0.44 Inch (21.8 X 9.2 X 11.1 mm)		
Weight	4.8g (0.17oz)		
MTBF(Note 1)	Bellcore TR-NWT-000332	3.963 x 10 ⁶ hrs	
	MIL-HDBK-217F	1.707 x 10 ⁶ hrs	

INPUT SPECIFICATIONS			
Input voltage range	12VDC nominal input	4.5 ~ 18VDC	
	24VDC nominal input	9 ~ 36VDC	
	48VDC nominal input	18 ~ 75VDC	
Input filter	Capacitor type		
Input surge voltage	12VDC input	36VDC 100ms, max.	
	24VDC input	50VDC 100ms, max.	
	48VDC input	100VDC 100ms, max.	
Input reflected ripple current(Note 6)	12VDC input	25mA-p-p	
	24VDC input	10mA-p-p	
	48VDC input	8mA-p-p	
Start up time	Nominal input and constant resistive load	Power up	30ms
		Remote ON/OFF	30ms
Remote ON/OFF	DC-DC ON	Open or high impedance	
	DC-DC OFF	Control pin applied current 2 ~ 4mA max(via 1kΩ)	
Remote off state input current	Nominal input	2.5mA, max.	
Application circuit			
			
ENVIRONMENTAL SPECIFICATIONS			
Operating ambient temperature	-40°C ~ +71°C (without derating) +71°C ~ +100°C (with derating)		
Storage temperature range	-55°C ~ +125°C		
Thermal shock	MIL-STD-810F		
Vibration	MIL-STD-810F		
Relative humidity	5% to 95% RH		
EMC CHARACTERISTICS			
EMI(Note6)	EN55022	Class A, Class B	
ESD	EN61000-4-2	Air	± 8kV
		Contact	± 6kV
Radiated immunity	EN61000-4-3	10 V/m	Perf. Criteria A
Fast transient(Note 7)	EN61000-4-4	± 2kV	Perf. Criteria A
Surge (Note 7)	EN61000-4-5	± 1kV	Perf. Criteria A
Conducted immunity	EN61000-4-6	10 Vr.m.s	Perf. Criteria A

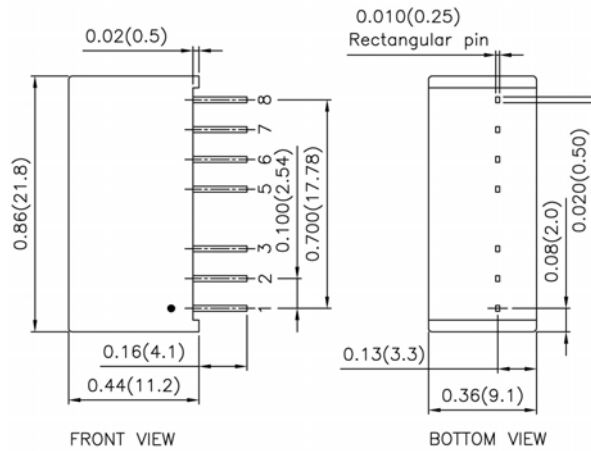
Model Number	Input Range	Output Voltage	Output Current		Output ⁽²⁾ Ripple & Noise	No load ⁽³⁾ Input Current	Eff ⁽⁴⁾ (%)	Capacitor ⁽⁵⁾ Load max
			Min. load	Full load				
PDL03-12S3P3W	4.5 ~ 18 VDC	3.3 VDC	0mA	700mA	30 mVp-p	35 mA	74	3300uF
PDL03-12S05W	4.5 ~ 18 VDC	5 VDC	0mA	600mA	30 mVp-p	40 mA	78	1680uF
PDL03-12S09W	4.5 ~ 18 VDC	9 VDC	0mA	333mA	30 mVp-p	40 mA	79	1000uF
PDL03-12S12W	4.5 ~ 18 VDC	12 VDC	0mA	250mA	30 mVp-p	40 mA	80	820uF
PDL03-12S15W	4.5 ~ 18 VDC	15 VDC	0mA	200mA	30 mVp-p	40 mA	80	680uF
PDL03-12D05W	4.5 ~ 18 VDC	±5 VDC	0mA	±300mA	30 mVp-p	40 mA	80	±1000uF
PDL03-12D12W	4.5 ~ 18 VDC	±12 VDC	0mA	±125mA	30 mVp-p	40 mA	80	±470uF
PDL03-12D15W	4.5 ~ 18 VDC	±15 VDC	0mA	±100mA	30 mVp-p	40 mA	80	±330uF
PDL03-24S3P3W	9 ~ 36 VDC	3.3 VDC	0mA	700mA	30 mVp-p	20mA	75	3300uF
PDL03-24S05W	9 ~ 36 VDC	5 VDC	0mA	600mA	30 mVp-p	20mA	80	1680uF
PDL03-24S09W	9 ~ 36 VDC	9 VDC	0mA	333mA	30 mVp-p	19mA	80	1000uF
PDL03-24S12W	9 ~ 36 VDC	12 VDC	0mA	250mA	30 mVp-p	20mA	82	820uF
PDL03-24S15W	9 ~ 36 VDC	15 VDC	0mA	200mA	30 mVp-p	19mA	82	680uF
PDL03-24D05W	9 ~ 36 VDC	±5 VDC	0mA	±300mA	30 mVp-p	25mA	79	±1000uF
PDL03-24D12W	9 ~ 36 VDC	±12 VDC	0mA	±125mA	30 mVp-p	25mA	81	±470uF
PDL03-24D15W	9 ~ 36 VDC	±15 VDC	0mA	±100mA	30 mVp-p	25mA	81	±330uF
PDL03-48S3P3W	18 ~ 75 VDC	3.3 VDC	0mA	700mA	30 mVp-p	12mA	74	3300uF
PDL03-48S05W	18 ~ 75 VDC	5 VDC	0mA	600mA	30 mVp-p	12mA	80	1680uF
PDL03-48S09W	18 ~ 75 VDC	9 VDC	0mA	333mA	30 mVp-p	13mA	80	1000uF
PDL03-48S12W	18 ~ 75 VDC	12 VDC	0mA	250mA	30 mVp-p	14mA	81	820uF
PDL03-48S15W	18 ~ 75 VDC	15 VDC	0mA	200mA	30 mVp-p	14mA	81	680uF
PDL03-48D05W	18 ~ 75 VDC	±5 VDC	0mA	±300mA	30 mVp-p	14mA	79	±1000uF
PDL03-48D12W	18 ~ 75 VDC	±12 VDC	0mA	±125mA	30 mVp-p	14mA	81	±470uF
PDL03-48D15W	18 ~ 75 VDC	±15 VDC	0mA	±100mA	30 mVp-p	14mA	81	±330uF

Note

1. BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment)
 2. Typical value at nominal input and full load. (20MHz BW.)
 3. Typical value at nominal input and no load.
 4. Typical value at nominal input and full load.
 5. Test by minimum input and constant resistive load.
 6. The PDL03W series standard module meets EN55022 Class A and Class B with external components.
For more detail information, please contact with P-DUKE.
 7. An external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5.
The filter capacitor Power Mate suggest: Nippon chemi-con KY series, 100µF/100V.
- CAUTION:** This power module is not internally fused. An input line fuse must always be used.



MECHANICAL DRAWING :



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)

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")