PLD03 Series,3Watt

FEATURES:

- ✓ Universal input: 85~305VAC 47~63Hz
- ✓ Regulated single output
- ✓ Energy saving, standby power only less than 0.1W
- ✓ Typical efficiency 70 … 79%
- ✓ Isolation voltage 4000VAC
- ✓ 100% burn-in test
- ✓ 3 year warranty

MODEL LIST

Model	Input voltage (Vac)	Output voltage (Vdc)	Output current (mA)	Efficiency Typ.	Maximum capacitive load
PLD03-3	85-305VAC	3.3	900	70	3000uF
PLD03-5	85-305VAC	5	600	74	3000uF
PLD03-9	85-305VAC	9	333	78	1200uF
PLD03-12	85-305VAC	12	250	79	1200uF
PLD03-15	85-305VAC	15	200	79	680uF
PLD03-24	85-305VAC	24	125	79	220uF

ELECTRICAL PARAMETER

PARAMETERS	CONDITION	MIN.	TYP.	MAX.	UNIT
Input voltage range	AC in	85	---	305	VAC
	DC in	100		430	VDC
Input frequency		47	---	63	Hz
Nominal input voltage		100	---	277	VAC
Input current	115VAC	---	---	0.12	A
	230VAC			0.07	
Inrush current Cold start	115VAC	---	15	---	A
	230VAC		25		
Leakage current	277VAC, 50Hz	---	---	0.25	mA RMS
Output voltage accuracy		---	±3	---	%
Line regulation	Full load	---	±0.5	---	%
Load regulation IOUT=0%~100% of IOUT, rated		---	±1.0	---	%
Ripple and noise 20MHz bandwidth, peak to peak		---	50	100	mV

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ELECTRICAL PARAMETER

Temperature coefficiency		---	±0.02	---	%/°C
Standby power consumption	230VAC	---	0.1	---	W
Hold up time Full load	115VAC	---	5	---	mS
	230VAC		50		
Over voltage protection Hiccup or clamping by Zener diode	VOUT=3.3, 5V	---	---	7.5	VDC
	VOUT=9, 12V	---	---	17	
	VOUT=15V	---	---	20	
	VOUT=24V	---	---	30	
Over current protection	Automatic recovery	110	---	---	% IOUT
Short circuit protection	Continuous, hiccup mode, automatic recovery				
Recommended external fuse	1A, 300V, slow blow, *required*				
Minimum load	No minimum load is required				
Isolation voltage 1 minute, leakage current 5mA max	I/P to O/P	4000	---	---	VAC
Isolation resistance 500VDC, 25°C, 70%RH	I/P to O/P	100	---	---	M Ohm
Switching frequency		---	65	---	KHz
Operating temperature range	See “Derating Curve”	-40	---	85	°C
Storage temperature		-40	---	105	°C
Storage humidity		10	---	95	%RH
Operating altitude		---	---	5000	m
Soldering temperature	Wave		260		°C
	Manual		360		
Case material	Black plastic UL94-V0				
Cooling method	Free air convection				
Vibration	10Hz to 55Hz, 10G, 30 minutes along X, Y and Z axis				
Class II power	Yes, no FG				
MTBF	MIL-HDBK-217F	> 1,000,000 Hours, 25°C			
Safety certifications	UL/EN/IEC 62368, EN60335, EN61558				

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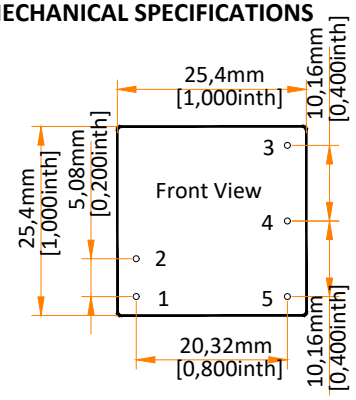
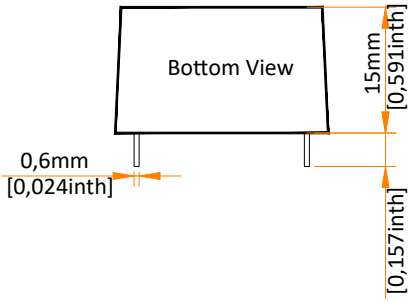
ELECTRICAL PARAMETER

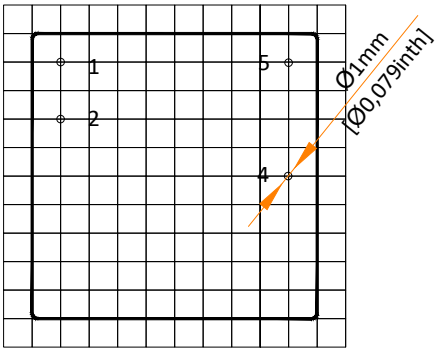
(1) With External Circuit as shown in “Figure 1”	CE	CISPR32, EN55032 Class B
	ESD	IEC/EN61000-4-2, Contact ±6kV, Air ±8kV, Criteria B
	RS	IEC/EN61000-4-3, 10V/m, Criteria A
	EFT	IEC/EN61000-4-4, ±2kV, Criteria B, (1)
	EFT	IEC/EN61000-4-4, ±4kV, Criteria B, (2)
(2) With External Circuit as shown in “Figure 2”	Surge	IEC/EN61000-4-5, Line to Line ±1kV, Criteria B, (1)
	Surge	IEC/EN61000-4-5, Line to Line ±2kV, Criteria B, (2)
	CS	IEC/EN61000-4-6, 10Vrms, Criteria A
	DIP	IEC/EN61000-4-11, 0%, 70%, Criteria A
Size, and Weight		25.4 x 25.4 x 15 mm, 16g
Packing		720pcs/Carton, size: 405x365x245mm, 11.6Kg G.W.

MECHANICAL SPECIFICATIONS





PCB layout



PIN DEFINITION

Pin #	Single Out
1	AC (N)
2	AC (L)
4	-VOUT
5	+VOUT

* Unless otherwise specified unit: mm [inch]
* General tolerance: ±0.50 [±0.020]
* Pin thickness: ±0.15 [±0.006]
* Pin distance: ±0.50 [±0.020]
* Footprint grid 2.54 x 2.54 mm

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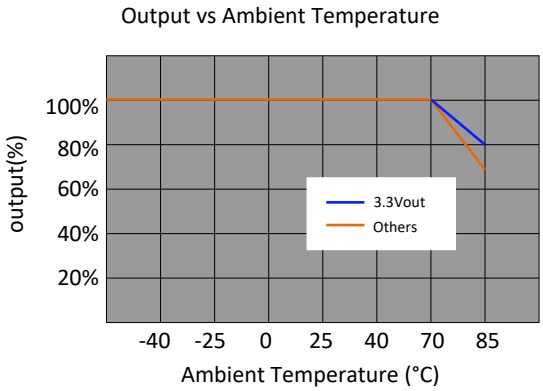
DERATING CURVES



TYPICAL EXTERNAL CIRCUIT

Components with "" are required. The other components are highly recommended.

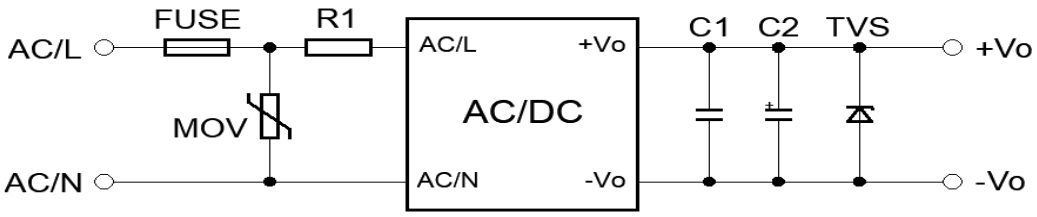


Figure 1. Typical external circuit

Recommended Components [Table 1]

SPEC	FUSE*	MOV	R1*	C1	C2	TVS
VOUT=3.3, 5V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	150uF, 16V	SMBJ7.0A
VOUT=9V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	120uF, 35V	SMBJ12A
VOUT=12, 15V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	120uF, 35V	SMBJ20A
VOUT=24V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	68uF, 35V	SMBJ 30A

*For further questions contact one of our sales representatives.

EMC Enhancement for EN55032 Class B

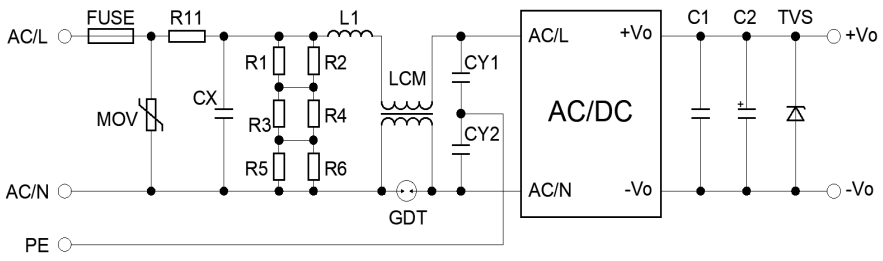


Figure 1. Circuit for EMC Enhancement

[Table 2] Recommended Components

MOV	CX	R11	L1	LCM	GDT	CY1, CY2
14D681K	334K, 305VAC	33 Ohm, 3W	1.2mH, 0.3A	20mH	300V, 1KA	1nF, 400VAC

*FUSE to be 2A, 300V, slow blow. *R1 … R6 is the bleeder resistance of CX – 1.5Mohm, 150VDC
*Other components see the same in Table 1