

PLD05 Series,5Watt

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
PLD05-3	85-305VAC	3.3	1200	70	3000uF
PLD05-5	85-305VAC	5	1000	74	3000uF
PLD05-9	85-305VAC	9	555	78	1200uF
PLD05-12	85-305VAC	12	416	79	1200uF
PLD05-15	85-305VAC	15	333	79	680uF
PLD05-24	85-305VAC	24	208	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	---	A
Inrush current Cold start	115VAC	---	15	---	A
	230VAC	---	25	---	A
Leakage current	277VAC, 50Hz	---	---	0.25	mA RMS
Output voltage accuracy		---	±3	---	%
Line regulation	Full load	---	±0.5	---	%
Load regulation <small>I_{OUT}=0%~100% of I_{OUT, rated}</small>		---	±1.0	---	%

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Ripple and noise 20MHz bandwidth, peak to peak		---	50	100	mV
Temperature coefficient		---	±0.02	---	%/°C
Standby power consumption	230VAC	---	0.1	---	W
Hold up time Full load	115VAC		5		
	230VAC	---	50	---	mS
Over voltage protection Hiccup or clamping by Zener diode	VOUT=3.3, 5V	---	---	7.5	
	VOUT=9, 12V	---	---	17	
	VOUT=15V	---	---	20	VDC
	VOUT=24V	---	---	30	
Over current protection	Automatic recovery	110	---	---	% IOU
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		
	Manual		360		°C
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				

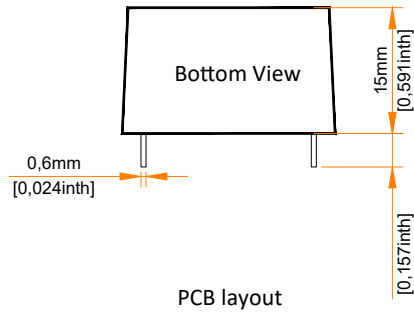
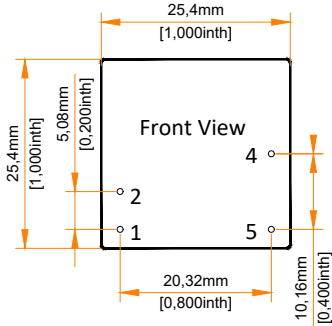
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ELECTRICAL PARAMETER

MTBF	MIL-HDBK-217F	> 1,000,000 Hours, 25°C
Safety certifications	UL/EN/IEC 62368, EN60335, EN61558,UKCA, FCC	
	CE	CISPR32, EN55032 Class B
	ESD	IEC/EN61000-4-2, Contact $\pm 6\text{kV}$, Air $\pm 8\text{kV}$, Criteria B
(1) With External Circuit as shown in "Figure 1"	RS	IEC/EN61000-4-3, 10V/m, Criteria A
	EFT	IEC/EN61000-4-4, $\pm 2\text{kV}$, Criteria B, (1)
	EFT	IEC/EN61000-4-4, $\pm 4\text{kV}$, Criteria B, (2)
(2) With External Circuit as shown in "Figure 2"	Surge	IEC/EN61000-4-5, Line to Line $\pm 1\text{kV}$, Criteria B, (1)
	Surge	IEC/EN61000-4-5, Line to Line $\pm 2\text{kV}$, 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.	

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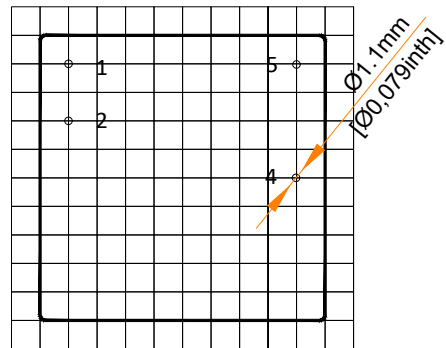
MECHANICAL SPECIFICATIONS



PIN DEFINITION

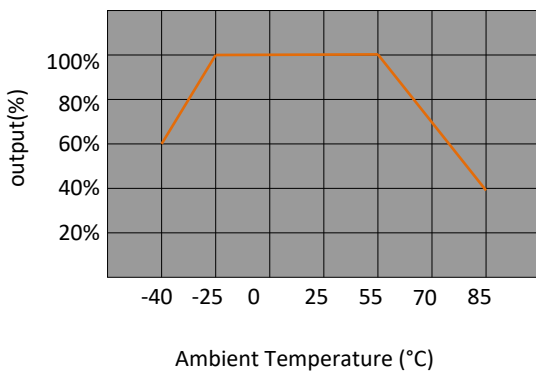
Pin #	Single Out
1	AC (N)
2	AC (L)
4	-VOUT
5	+VOUT

- * 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

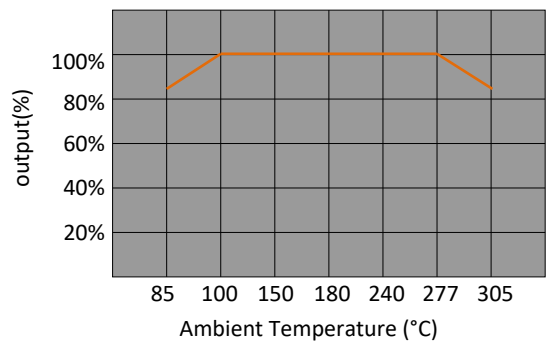


DERATING CURVES

Output vs Ambient Temperature



Output vs Input Voltage



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TYPICAL EXTERNAL CIRCUIT

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

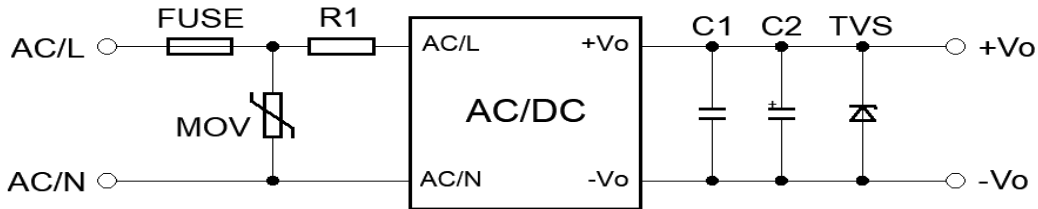


Figure 1. Typical external circuit

Recommended Components [Table 1]

SPEC	FUSE*	MOV	R1*	C1	C2	TVS
VOU \approx 3.3, 5V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	150uF, 16V	SMBJ7.0A
VOU \approx 9V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	120 uF, 35V	SMBJ12A
VOU \approx 12, 15V	1A, 300V	10D681K	12 Ohm, 3W	1uF, 50V	120 uF, 35V	SMBJ20A
VOU \approx 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

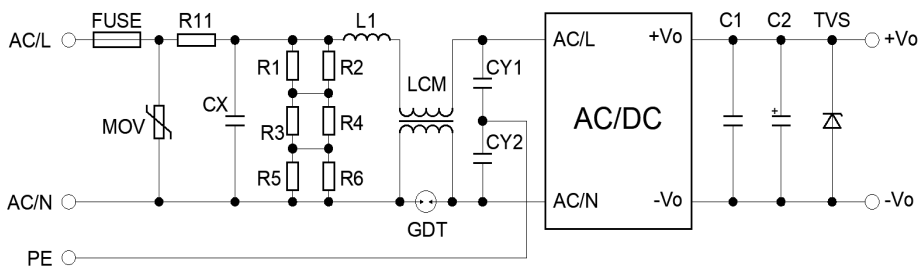


Figure 1. Circuit for EMC Enhancement

[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