

Size: 1.38in x 0.71in x 0.43in (35mm x 18mm x 11mm)

**FEATURES**

- Input Voltage Range of 85-305VAC/70-430VDC
- AC and DC Dual-Use (Input From Same Terminal)
- Compact Size
- Low Power Consumption
- Industrial Grade
- Over Current and Short Circuit Protection
- RoHS Compliant
- See PLSF01 For Straight Pin Packages
- 90° Bend SIP Package
- IEC60950, EN60950, and UL60950 Safety Approvals

**DESCRIPTION**

The PLSF01 series of AC/DC converters offers 1 watt of output power in a compact SIP package. This series consists of single output models with a wide input voltage range of 85-305VAC/70-430VDC. Each model in this series has high efficiency, low power consumption, over current and short circuit protection, as well as the option for 90° bent pins. This series has IEC60950, EN60950 and UL60950 safety approvals and is RoHS compliant.

**MODEL SELECTION TABLE**

Model Number <sup>(1)</sup>	Input Voltage Range	Output Voltage	Output Current	Efficiency	Maximum Capacitive Load	Output Power	Certification
PSLSF01-15B05	85-305VAC (70-430VDC)	5V	200mA	66%	220µF	1W	UL/CE/CB
PSLSF01-15B09		9V	111mA	67%	100µF		
PSLSF01-15B12		12V	83mA	70%	100µF		
PSLSF01-15B15		15V	67mA	69%	100µF		
PSLSF01-15B24		24V	42mA	68%	100µF		

**SPECIFICATIONS**

All specifications are based on 25°C, Humidity <75%, Nominal Input Voltage (115V and 230V), and Rated Output Load unless otherwise noted. We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
<b>INPUT SPECIFICATIONS</b>					
Input Voltage Range	AC Input	85		305	VAC
	DC Input	70		430	VDC
Input Frequency		47		63	Hz
Input Current	115VAC			0.12	A
	277VAC			0.06	
Inrush Current	115VAC		9		A
	277VAC		15		
Recommended External Input Fuse		1A, slow fusing, necessary			
Hot Plug		Unavailable			
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Voltage Accuracy	5V Model			±8	%
	All Others			±5	
Line Regulation	Full Load		±1.5		%
Load Regulation	5%-100% Load		±2.5		%
Output Power		See Table			
Output Current		See Table			
Minimum Load		5			%
Maximum Capacitive Load		See Table			
Ripple & Noise <sup>(1)</sup>	20MHz Bandwidth (peak-peak value)		50	120	mV
Temperature Coefficient			±0.15		%/°C
Stand-By Power Consumption	5V, 9V, 12V, & 15V Models		0.15	0.25	W
	24V Models		0.2	0.3	
Hold-Up Time	230VAC Input	150	180		ms
<b>PROTECTION</b>					
Short Circuit Protection		Continuous, Self-Recovery			
Over Current Protection	Self-Recovery	110		500	%Io
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature		-40		+85	°C
Storage Temperature		-40		+105	°C
Storage Humidity				85	%RH
MTBF	MIL-HDBK-217F@25°C	200,000			Hours

**SPECIFICATIONS**

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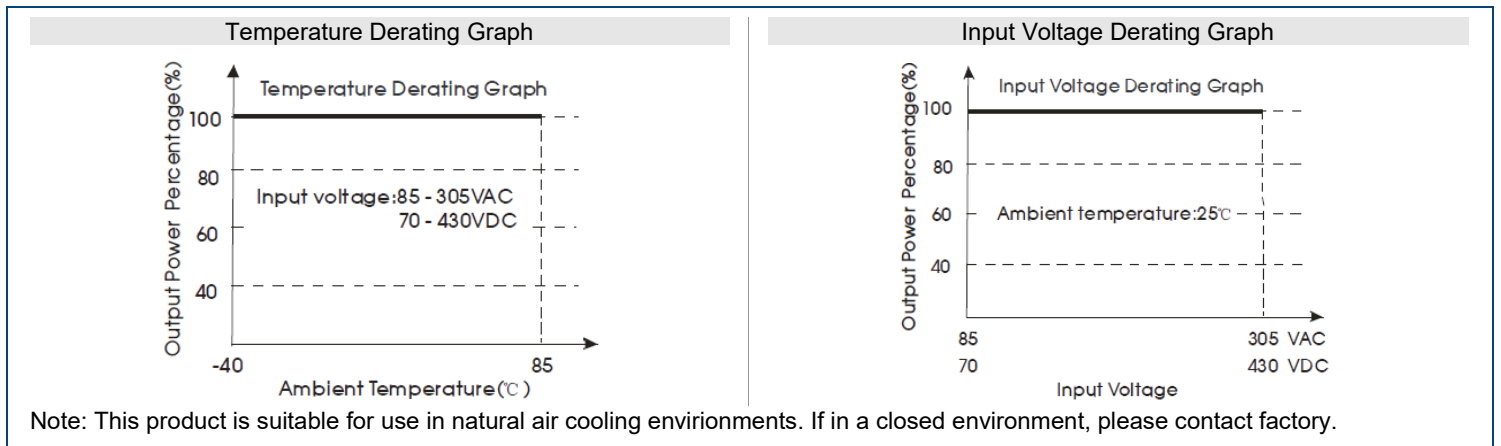
SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
<b>GENERAL SPECIFICATIONS</b>						
Efficiency	230VAC, %Typ.		See Table			
Switching Frequency					100	kHz
Isolation Voltage	Input to Output, Test Time: 1 min		3000			VAC
<b>PHYSICAL SPECIFICATIONS</b>						
Weight			0.21oz (6g) Typ.			
Dimensions (L x W x H)	90° Bend Pin Package		1.38in x 0.71in x 0.43in (35mm x 18mm x 11mm)			
Cooling			Free Air Convection			
<b>SAFETY CHARACTERISTICS</b>						
Safety Standards & Certification			IEC60950, EN60950, UL60950 <sup>(9)</sup>			
Safety Class			Class II			
EMI	CE	CISPR32/EN55032 CIRSP32/EN55032			Class A <sup>(2)</sup> Class B <sup>(3)</sup>	
	RE	CISPR32/EN55032 CISPR32/EN55032			Class A <sup>(2)</sup> Class B <sup>(3)</sup>	
ESD	IEC/EN61000-4-2	±4kV			Pref. Criteria B	
RS	IEC/EN61000-4-3	10V/m <sup>(3)</sup>			Perf. Criteria A	
EFT	IEC/EN61000-4-4	±2kV <sup>(2)</sup>			Perf. Criteria B	
	IEC/EN61000-4-4	±4kV <sup>(3)</sup>			Perf. Criteria B	
Surge	IEC/EN61000-4-5	Line to Line ±1kV <sup>(2)</sup>			Perf. Criteria B	
	IEC/EN61000-4-5	Line to Line ±1kV/line to ground ±2kV <sup>(3)</sup>			Perf. Criteria B	
CS	IEC/EN61000-4-6	10Vr.m.s <sup>(3)</sup>			Perf. Criteria A	
Voltage Dips, Short Interruption, and Voltage Variations Immunity	IEC/EN61000-4-11	0%-70% <sup>(3)</sup>			Perf. Criteria B	

**NOTES**

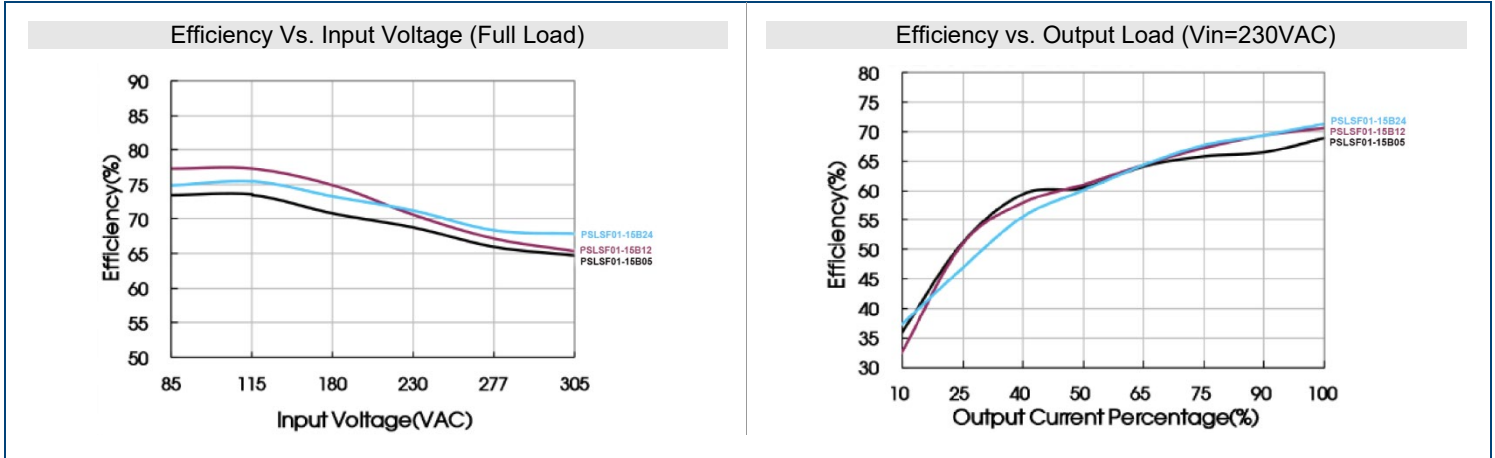
- Ripple and noise are measured by "parallel cable" method.
- See Fig. 1 for typical application circuit.
- See Fig. 2 for recommended circuit.
- External electrolytic capacitors are required to modules, for more info refer to typical applications
- In order to increase conversion efficiency of the product with light load in the design, product will have audio noise when it is operating, but will not affect the product's reliability and performance
- Module required dispensing fixed after assembled.
- This part is open frame, at least 6.4mm safety distance between primary and secondary external components of module is needed to meet safety requirements.
- Product customization is available.
- This product is Listed to applicable standards and requirements by UL.

\*Due to advances in technology, specifications subject to change without notice.

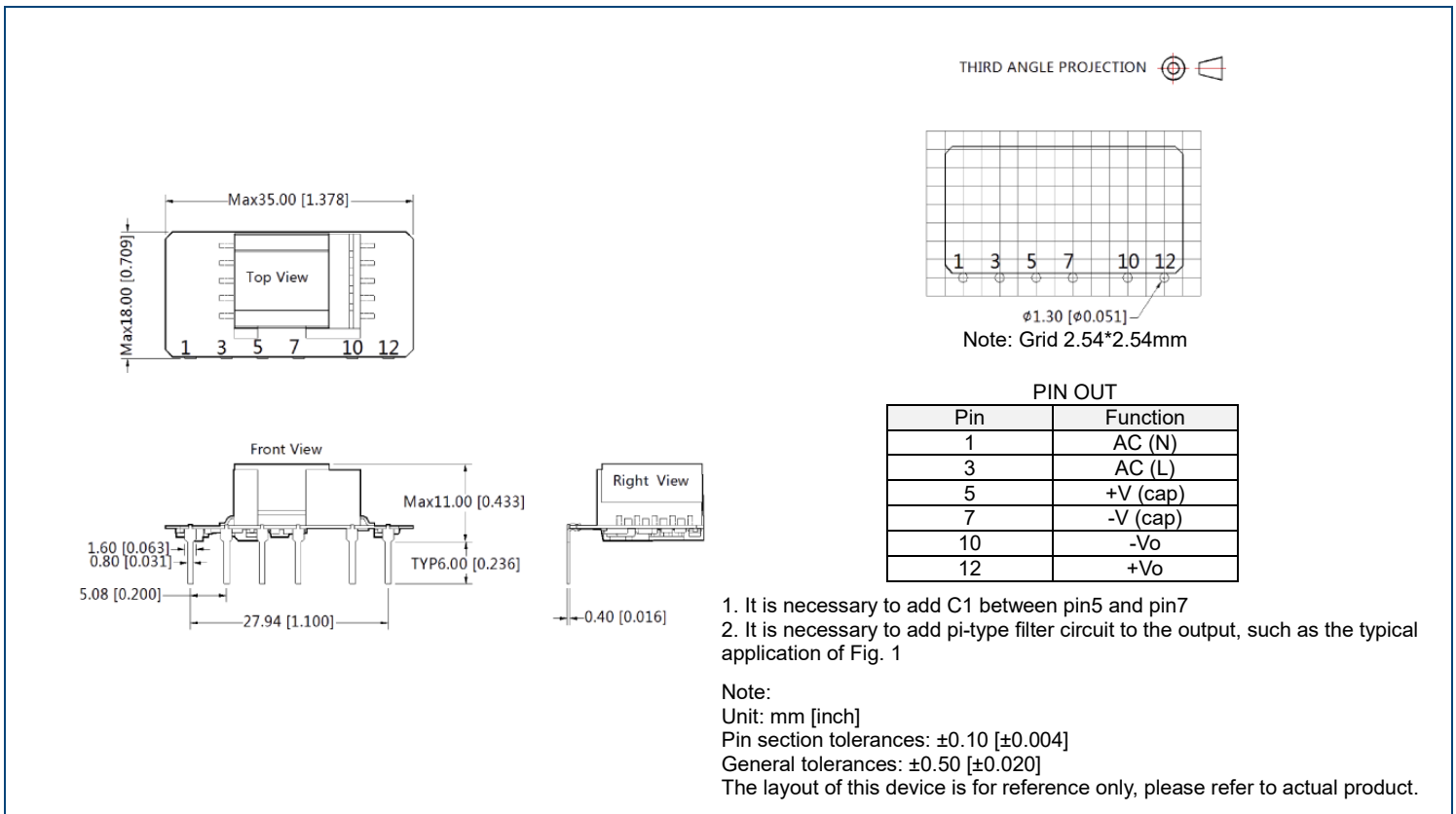
**CHARACTERISTIC CURVES**



EFFICIENCY CURVES



MECHANICAL DRAWINGS



DESIGN REFERENCE

1. Typical Application Circuit

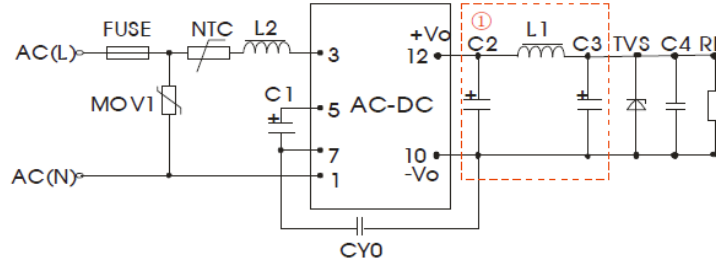


Fig. 1

Note: ① is PI filter circuit.

Model	FUSE (Necessary)	C1 (Necessary)	L2	NTC	C2 (Necessary)	L1 (Necessary)	C3 (Necessary)	C4	CY0	TVS
PSLSF01-15B05	1A/300V	4.7μF/450V	1mH	15D-5	100μF/16V (Solid Capacitor)	2.2μH	68μF/35V	0.1μF/50V	1nF/400VAC	SMBJ7.0A
PSLSF01-15B09					150μF/35V					SMBJ12A
PSLSF01-15B12					100μF/35V					SMBJ20A
PSLSF01-15B15										SMBJ20A
PSLSF01-15B24										SMBJ30A

Note:  
1. C1: AC Input, C1 is input flier capacitor (which is required);  
DC Input is a filtering capacitor in EMC filter (which is required);  
C2 and C3 are output flier capacitors (which is required). C2, C3, and L1 form a pi-type filter circuit, they are recommended to be high frequency and low impedance electrolytic capacitors. Capacitance and rated ripple current of capacitors refer to the datasheets provided by the manufacturers. Capacitor voltage reduced to at least 80%. C4 is a ceramic capacitor, which is used to filter high frequency noise. Current of L1 and L2 refer to the datasheets provided by the manufacturers, current derating to at least 80%. TVS is a recommended component to protect post-circuits (if converter fails). External Input MOV1 model is recommended to use S14K350.

EMC Solution-Recommended Circuit

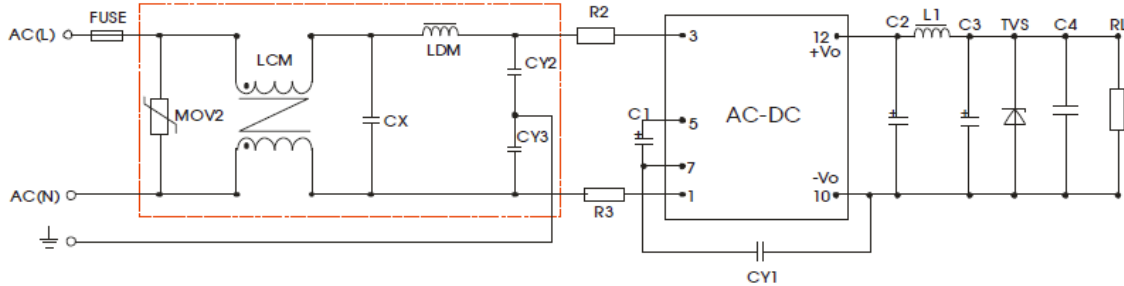


Fig 2

Components	Recommended Parameter
MOV2	S14K350
CY1/CY2/CY3	1nF/400VAC
CX	0.1μF/275VAC
LCM	3.5mH
LDM	0.33mH
R2/R3	33Ω/3W
Fuse (Necessary)	1A/300V, Slow Fusing

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## COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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