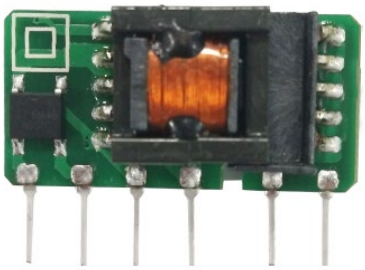


Size: 1.38in x 0.65in x 0.43in

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
- High Power Density
- See PSLSF01 for 90 Degree Bent Pin Options
- IEC60950, EN60950, and UL60950 Safety Approvals

DESCRIPTION

The PSLS01 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, as well as over current and short circuit protection. This series has IEC60950, EN60950 and UL60950 safety approvals.

MODEL SELECTION TABLE

Model Number[1]	Input Voltage Range	Output Voltage	Output Current	Efficiency	Maximum Capacitive Load	Output Power	Certification
PSLS01-15B05SS	85-305VAC (70-430VDC)	5V	200mA	66%	220µF	1W	UL/CE/CB
PSLS01-15B09SS		9V	111mA	67%	100µF		
PSLS01-15B12SS		12V	83mA	70%	100µF		
PSLS01-15B15SS		15V	67mA	69%	100µF		
PSLS01-15B24SS		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
INPUT SPECIFICATIONS						
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			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy	5V Model				±8	%
	All Others				±5	
Line Regulation	Full Load			±1.5		%
Load Regulation	5%-100% Load	5V, 9V, 12V, & 15V Models		±3.0		%
		24V Models		±6.0		
Output Power			See Table			
Output Current			See Table			
Minimum Load			5			%
Maximum Capacitive Load			See Table			
Ripple & Noise[1]	20MHz Bandwidth (peak-peak value)			50	120	mV
Temperature Coefficient				±0.15		%/ºC
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
PROTECTION						
Short Circuit Protection			Continuous, Self-Recovery			
Over Current Protection	Self-Recovery		110		500	%Io
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-40		+85	ºC
Storage Temperature			-40		+105	ºC
Storage Humidity					85	%RH
MTBF	MIL-HDBK-217F@25ºC		200,000			Hours
GENERAL SPECIFICATIONS						
Efficiency	230VAC, %Typ.		See Table			
Switching Frequency					100	kHz
Isolation Voltage	Input to Output, Test Time: 1 min		3000			VAC

SPECIFICATIONS

All specifications are based on 25°C, Humidity <75%, Nominal Input Voltage, 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
PHYSICAL SPECIFICATIONS						
Weight				0.21oz (6g) Typ.		
Dimensions (L x W x H)	Standard			1.38in x 0.65in x 0.43in (35mm x 16.45mm x 11mm)		
Cooling				Free Air Convection		
SAFETY CHARACTERISTICS						
Safety Standards & Certification		IEC60950, EN60950, UL60950(10)				
Safety Class		Class II				
EMI	CE	CISPR32/EN55032 CIRSP32/EN55032				Class A(3) Class B(4)
	RE	CISPR32/EN55032 CISPR32/EN55032				Class A(3) Class B(4
ESD	IEC/EN61000-4-2	±4kV				Pref. Criteria B
RS	IEC/EN61000-4-3	10V/m(3)				Perf. Criteria A
EFT	IEC/EN61000-4-4 IEC/EN61000-4-4	±2kV(2) ±4kV(3)				Perf. Criteria B Perf. Criteria B
Surge	IEC/EN61000-4-5	Line to Line ±1kV(2)				Perf. Criteria B
	IEC/EN61000-4-5	Line to Line ±1kV/line to ground ±2kV(3)				Perf. Criteria B
CS	IEC/EN61000-4-6	10Vr.m.s(3)				Perf. Criteria A
Voltage Dips, Short Interruption, and Voltage Variations Immunity	IEC/EN61000-4-11	0%-70%(3)				Perf. Criteria B

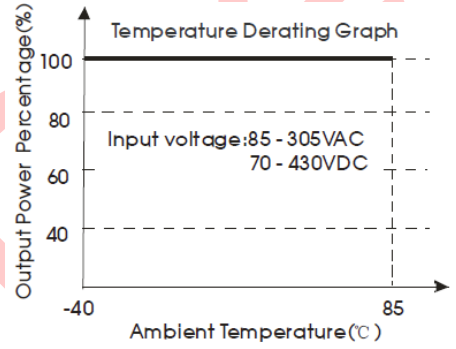
NOTES

1. Ripple and noise are measured by “parallel cable” method.
2. See Fig. 1 for typical application circuit.
3. See Fig. 2 for recommended circuit.
4. External electrolytic capacitors are required to modules, for more info refer to typical applications
5. 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
6. Module required dispensing fixed after assembled.
7. 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.
8. Product customization is available.
9. Products classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.
10. This product is Listed to applicable standards and requirements by UL.

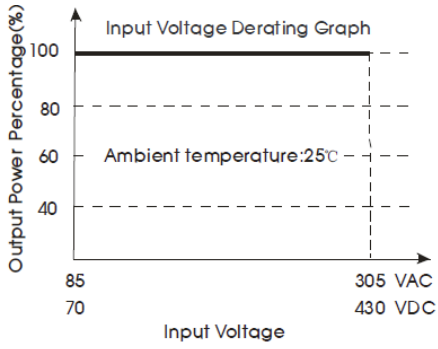
**Due to advances in technology, specifications subject to change without notice.*

CHARACTERISTIC CURVES

Temperature Derating Graph



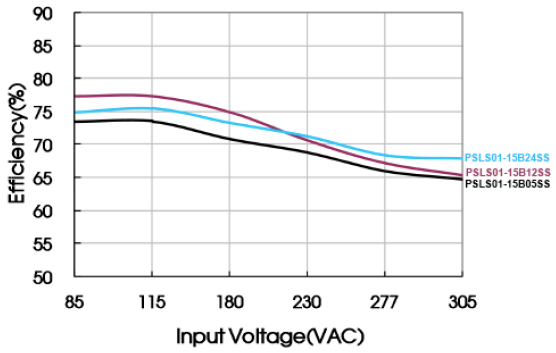
Input Voltage Derating Graph



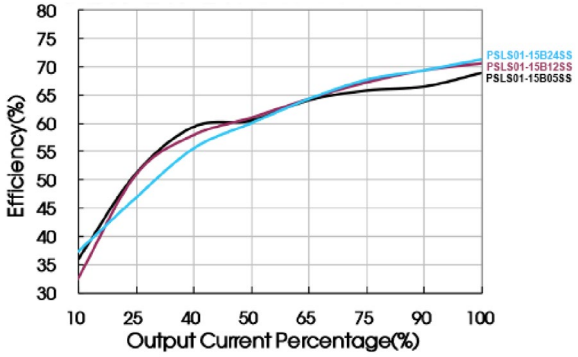
Note: This product is suitable for use in natural air cooling envirionments. If in a closed environment, please contact factory.

EFFICIENCY CURVES

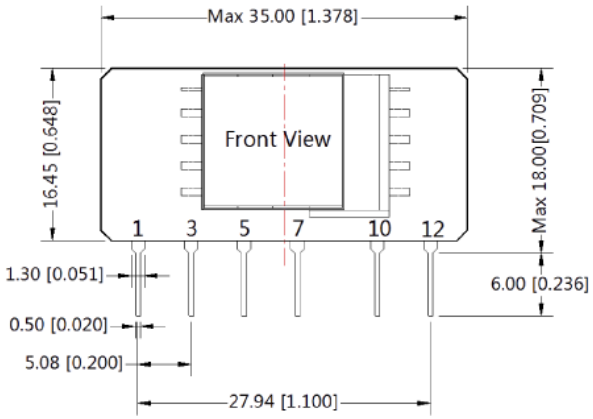
Efficiency Vs. Input Voltage (Full Load)

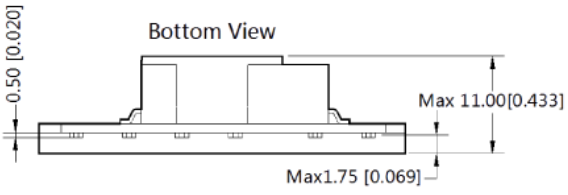


Efficiency vs. Output Load (Vin=230VAC)

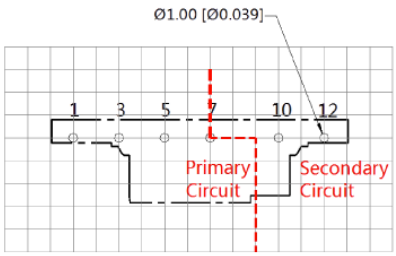


MECHANICAL DRAWINGS





THIRD ANGLE PROJECTION



Note: 2.54*2.54mm

PIN OUT

Pin	Function
1	AC (N)
3	AC (L)
5	+V (cap)
7	-V (cap)
10	-Vo
12	+Vo

1. It is necessary to add C1 between pin5 and pin7
2. It is necessary to add pi-type filter circuit to the output, such as the typical application of Fig. 1
3. It is necessary to have a distance of ≥6.4mm between external components in primary circuit and secondary circuit.

Note:
Unit: mm[in]
Pin section tolerances: ±0.10 [±0.004]
General Tolerances: ±0.50 [±0.020]
The layout of the device is for reference only, please refer to actual product

DESIGN REFERENCE

1. Typical Application Circuit

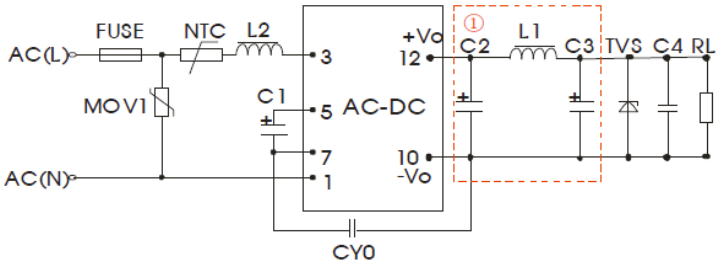


Fig. 1

Note: ① is PI filter circuit.

Model	FUSE (Necessary)	C1 (Necessary)	L2	NTC	C2 (Necessary)	L1 (Necessary)	C3 (Necessary)	C4	CY0	TVS
PSLS01-15B05SS	1A/300V	4.7μF/450V (-20°C~+85°C) 10μF/450V (-40°C~+85°C)	1mH	15D-5	270μF/16V (Solid Capacitor)	2.2μH	68μF/35V	0.1μF/50V	1nF/400VAC	SMBJ7.0A
PSLS01-15B09SS					100μF/16V (Solid Capacitor)					SMBJ12A
PSLS01-15B12SS										SMBJ20A
PSLS01-15B15SS					100μF/35V					SMBJ20A
PSLS01-15B24SS										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

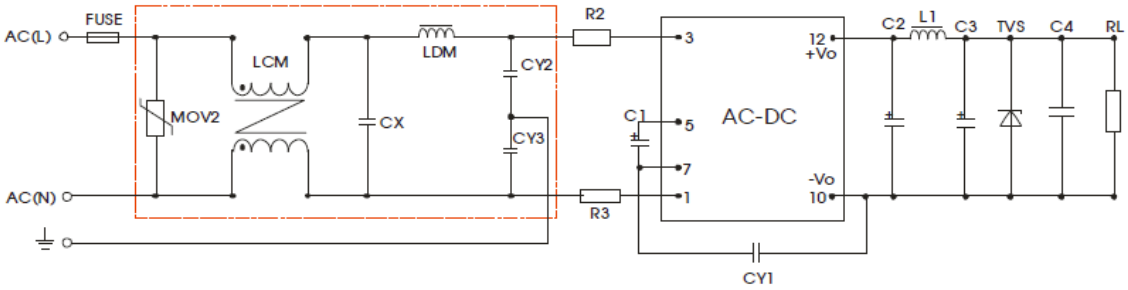


Fig 2

Components	Recommended Parameter
MOV2	S14K350
CY1	1nF/400VAC
CY2/CY3	561K/400VAC
CX	0.1μF/275VAC
LCM	3.5mH
LDM	0.33mH
R2/R3	33Ω/3W
Fuse (Necessary)	1A/300V, Slow Fusing

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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