



Size:  
1.33 x 0.87 x 0.67 inches  
33.7 x 22.2 x 17.0 mm

## FEATURES

- RoHS Compliant
- Isolation Class II
- 2 Watts Output Power
- Low Ripple and Noise
- Single Outputs
- UL/cUL, CE, CB Safety Approvals
- PCB Mountable Switching Power Supply
- Fully Encapsulated Plastic Case
- -40°C to +80°C Operating Temperature Range
- < 0.3W No Load Power Consumption
- Universal Input Range: 90-305VAC (120-430VDC)
- Short Circuit, Over Power, and Over Voltage Protection

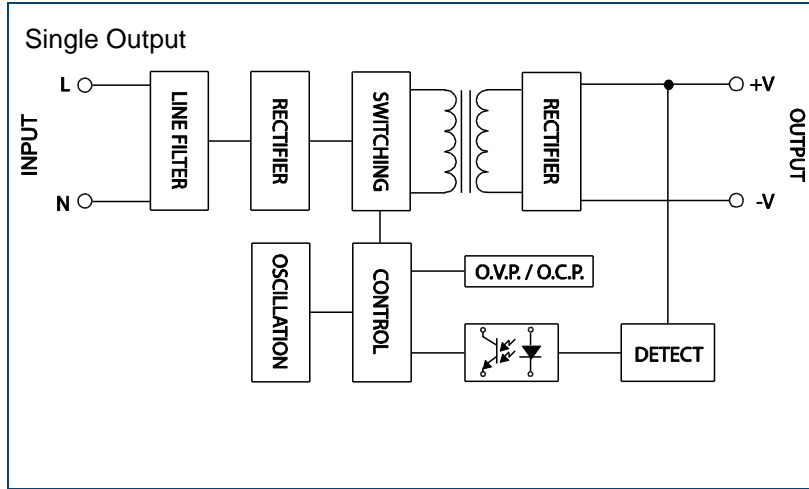
## DESCRIPTION

The PSAYC series of AC/DC switching power supplies provides 2 watts of output power in a 1.33" x 0.87" x 0.67" encapsulated PCB mountable package. This series consists of single output models with a universal input range of 90-305VAC (120-430VDC). Some features include low ripple and noise, -40°C to +80°C operating temperature range, and over power, over voltage, and short circuit protection. All models are RoHS compliant and have UL/cUL, CE, and CB safety approvals.

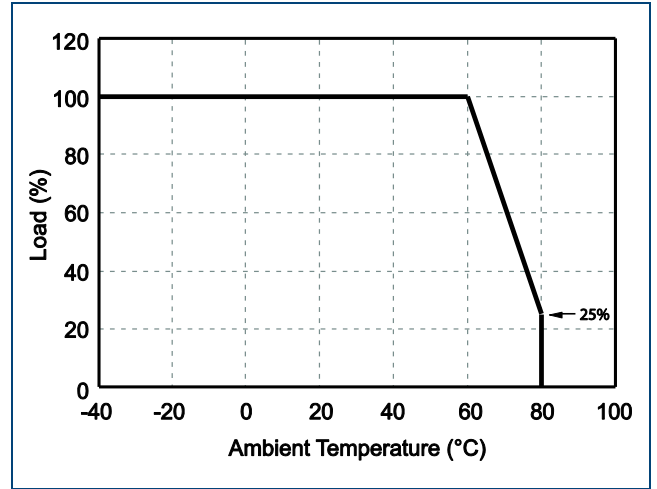
## MODEL SELECTION TABLE

Model Number	Input Voltage	Output Voltage	Output Current		Line Regulation	Load Regulation	Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load					
PSAYC-3.3S	90~305 VAC (120~430 VDC)	3.3 VDC	0%	600mA	±1.0%	±1.5%	2W	66%	7,000µF
PSAYC-5S		5 VDC	0%	400mA	±1.0%	±1.5%	2W	70%	4,000µF
PSAYC-9S		9 VDC	0%	222mA	±1.0%	±1.5%	2W	73%	1200µF
PSAYC-12S		12 VDC	0%	167mA	±1.0%	±1.5%	2W	73%	500µF
PSAYC-15S		15 VDC	0%	133mA	±1.0%	±1.5%	2W	73%	350µF
PSAYC-24S		24 VDC	0%	83mA	±1.0%	±1.5%	2W	75%	110µF

**BLOCK DIAGRAM**



**DERATING CURVE**



**SPECIFICATIONS: PSAYC SERIES**

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

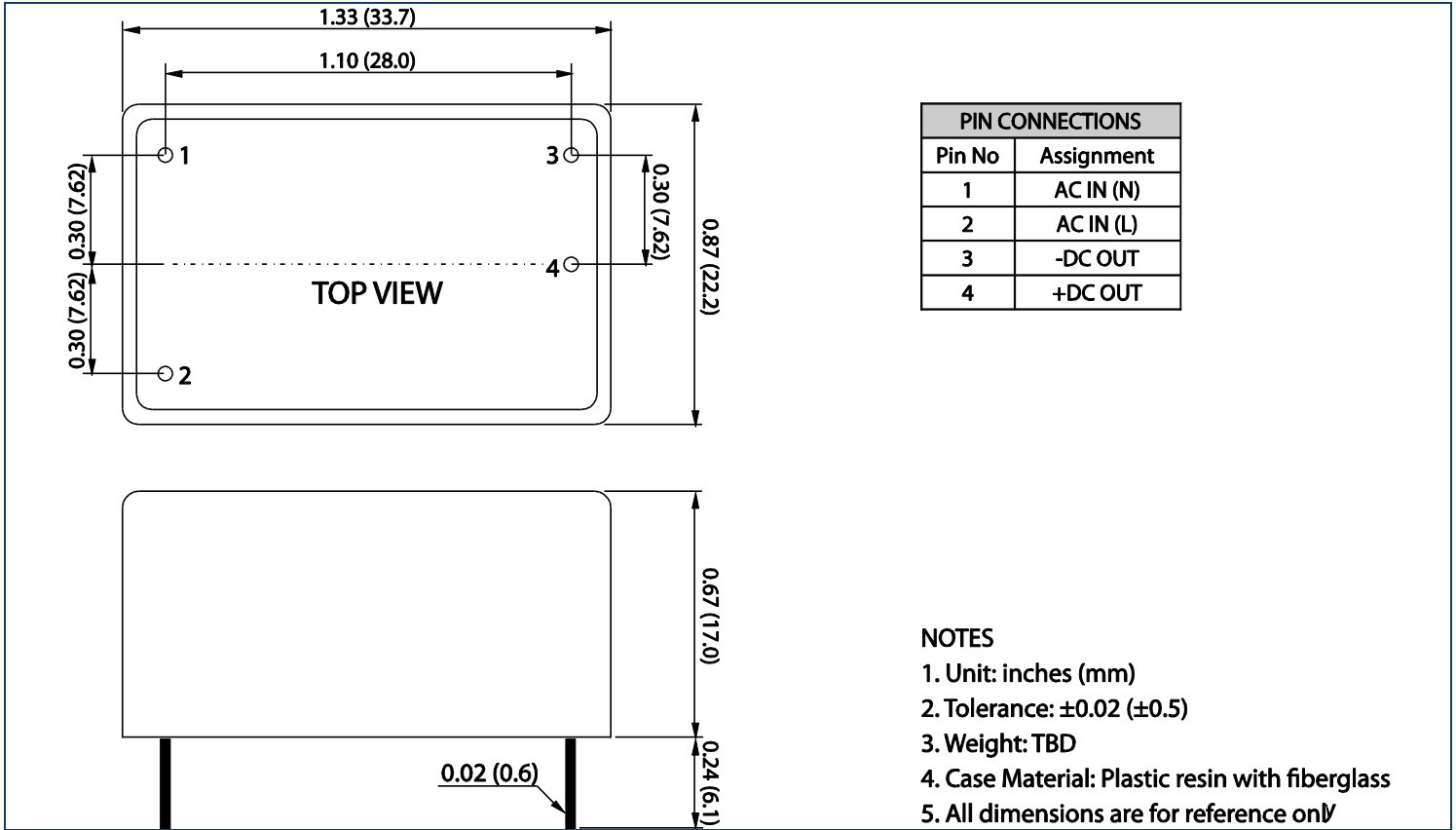
SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
<b>INPUT SPECIFICATIONS</b>					
Input Voltage	AC input voltage range	90		305	VAC
	DC input voltage range	120		430	VDC
Input Frequency		47		63	Hz
Input Current	At 115VAC and full load			75	mA
	At 230VAC and full load			55	
Inrush Current (<500µs)	At 115VAC			15	A
	At 230VAC			25	
No Load Power Consumption				0.3	W
External Fuse (recommended)		3.15A slow blow type			
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Voltage Accuracy		-5		+5	%
Line Regulation	Low line to high line	-1		+1	%
Load Regulation	0% to 100% load	-1.5		+1.5	%
Output Power				2	W
Output Current		See Table			
Minimum Load		0			%
Ripple & Noise <sup>(1)</sup>	120Hz	Measured at 20MHz BW with 0.1µF and 47µF capacitors in parallel	1		Vp-p
	100kHz		0.25		
Max Capacitive Load		See Table			
Hold-Up Time <sup>(2)</sup>	At 230VAC	15			ms
Temperature Coefficient		-0.02		+0.02	%/°C
<b>PROTECTION</b>					
Short Circuit Protection		Hiccup mode, indefinite (auto-recovery)			
Over Voltage Protection		Zener diode clamp			
Over Power Protection		Hiccup technique, auto-recovery			
<b>GENERAL SPECIFICATIONS</b>					

Efficiency		See Table			
Isolation Voltage	Input to output	3000			VAC
Leakage Current				0.25	mA
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature	With derating (see derating curve)	-40		+80	°C
Storage Temperature		-40		+85	°C
Humidity				95	% RH
Cooling		Free air convection			
MTBF	25°C (MIL-HDBK-217F)	350,000			hours
<b>PHYSICAL SPECIFICATIONS</b>					
Weight		0.71 oz (20.1 g)			
Case Material		Plastic resin with fiberglass (Flammability to UL 94V-0)			
Dimensions (L x W x H)		1.33 x 0.87 x 0.67 inches (33.7 x 22.2 x 17.0 mm)			
<b>SAFETY &amp; EMC</b>					
Safety Approvals		UL/cUL, CE, CB			
EMC	EMI (Conducted and Radiated Emissions)	EN 55022 Class B			
	EMS (Noise Immunity)	EN 55024			

## NOTES

- (1) Ripple & Noise measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
- (2) Hold-up time measured at 90% Vout.
- (3) Varistor 14S561K required at L/N input side in parallel.
- (4) 10R/ 15f thermistor required at L input side in series connection.
- (5) Please request our PDF file "AC-DC Application Notes" for more details.

**MECHANICAL  
DRAWING**



**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 ISO9001-2008 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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