



Size:
1.44 x 1.06 x 0.67 inches
36.5 x 27.0 x 17.1 mm

Weight:
0.92oz (26g)

FEATURES

- RoHS Compliant
- Isolation Class II
- Up to 4 Watts Output Power
- Low Ripple and Noise
- Single and Dual Outputs
- UL/cUL and CE Approvals
- PCB Mountable Switching Power Supply
- Fully Encapsulated Plastic Case
- -40°C to +70°C Operating Temperature Range
- Universal Input Voltage Range: 90-305VAC (120-430VDC)
- Short Circuit, Over Power, and Over Voltage Protection
- < 0.3W No Load Input Power

DESCRIPTION

The PSAOCH series of AC/DC switching power supplies provides up to 4 watts of output power in a 1.44" x 1.06" x 0.67" encapsulated PCB mountable package. This series consists of single and dual output models with a universal input range of 90-305VAC (120-430VDC). Some features include low ripple and noise, -40°C to +70°C operating temperature range, and over power, over voltage, and short circuit protection. All models are RoHS compliant and have UL/cUL and CE safety approvals.

MODEL SELECTION TABLE

SINGLE OUTPUT MODELS

Model Number	Input Voltage	Output Voltage	Output Current		Ripple & Noise ⁽²⁾	Line Regulation	Load Regulation (0% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
			Min Load	Max Load						
PSAOCH-3.3S	90~305 VAC (120~430 VDC)	3.3 VDC	0mA	1200mA	250mVp-p	±0.5%	±1.5%	3.96W	68%	14,000µF
PSAOCH-5S		5 VDC	0mA	800mA	200mVp-p	±0.2%	±0.5%	4W	72%	8,000µF
PSAOCH-8S		8 VDC	0mA	500mA	150mVp-p	±0.2%	±0.5%	4W	74%	2700µF
PSAOCH-9S		9 VDC	0mA	444mA	100mVp-p	±0.2%	±0.5%	4W	75%	2400µF
PSAOCH-12S		12 VDC	0mA	333mA	100mVp-p	±0.2%	±0.5%	4W	76%	1000µF
PSAOCH-14S		14 VDC	0mA	286mA	100mVp-p	±0.2%	±0.5%	4W	76%	750µF
PSAOCH-15S		15 VDC	0mA	267mA	100mVp-p	±0.2%	±0.5%	4W	76%	700µF
PSAOCH-24S		24 VDC	0mA	167mA	100mVp-p	±0.2%	±0.5%	4W	77%	220µF

DUAL OUTPUT MODELS

Model Number	Input Voltage	Output Voltage	Output Current		Ripple & Noise ⁽²⁾	Line Regulation	Load Regulation (25% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
			Min Load ⁽¹⁾	Max Load						
PSAOCH-5S3.3S	Vo	5 VDC	150mA	600mA	200mVp-p	±0.2%	±0.5%	3.5W	72%	5600µF
	Vr	3.3 VDC	37.5mA	150mA		±3%	±5%			4700µF
PSAOCH-8S5S	Vo	8 VDC	93.8mA	375mA	150mVp-p	±0.2%	±0.5%	3.6W	74%	1000µF
	Vr	5 VDC	30mA	120mA		±3%	±5%			4700µF
PSAOCH-12S5S	Vo	12 VDC	62.5mA	250mA	100mVp-p	±0.2%	±0.5%	3.6W	75%	330µF
	Vr	5 VDC	30mA	120mA		±3%	±5%			4700µF

NOTES

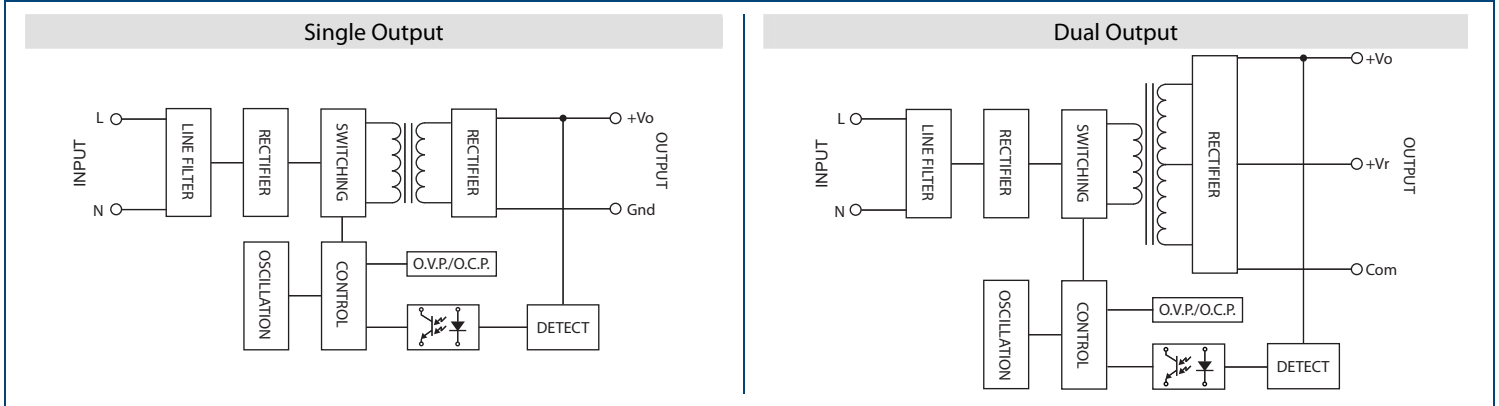
1. Dual output models require a minimum loading on the output to maintain specified regulations. Operation under no-load conditions will not damage these devices; however, they may not meet all listed specifications.
2. Ripple & Noise is measured 20MHz limited bandwidth and with 0.1µF and 47µF capacitors in parallel across the output.

SPECIFICATIONS: PSAOCH SERIES

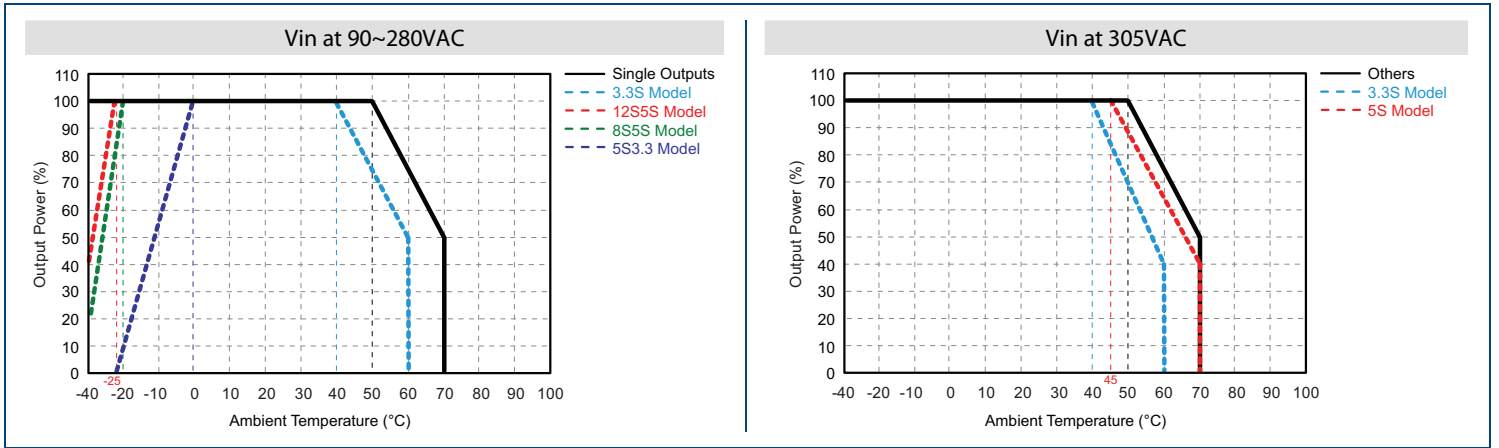
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS					
Input Voltage	AC input voltage range	90		305	VAC
	DC input voltage range	120		430	VDC
Input Frequency		47		440	Hz
Input Current	At 115VAC and full load	Single Output Models		75	mA
	At 230VAC and full load			55	
	At 115VAC and full load	Dual Output Models		85	mA
	At 230VAC and full load			65	
Inrush Current (<500µs)	At 115VAC			15	A
	At 230VAC			25	
External Fuse (recommended)		3.15A slow blow type			
OUTPUT SPECIFICATIONS					
Output Voltage		See Table			
Voltage Accuracy	Single Output Models	-2		+2	%
	Dual Output Models	Vo:	-2	+2	%
		Vr:	-5	+5	
Line Regulation	Low Line to High Line	See Table			
Load Regulation		See Table			
Output Power		See Table			
Output Current		See Table			
Minimum Load	Single Output Models	0			%
	Dual Output Models	25			
Ripple & Noise	Measured at 20MHz BW with 0.1µF and 47µF capacitors in parallel	See Table			
Max Capacitive Load		See Table			
Hold-Up Time		15			ms
Temperature Coefficient			±0.02		%/°C
PROTECTION					
Short Circuit Protection		Hiccup mode, indefinite (auto-recovery)			
Over Voltage Protection		Zener diode clamp			
Over Power Protection		Hiccup mode, auto-recovery			
GENERAL SPECIFICATIONS					
Efficiency		See Table			
Switching Frequency		124	132	140	KHz
Isolation Voltage (Input to Output)		3000			VAC
Leakage Current				0.25	mA
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	With derating (see derating curve)	-40		+70	°C
Storage Temperature		-40		+85	°C
Humidity				95	% RH
Cooling		Free air convection			
MTBF	25°C (MIL-HDBK-217F)	350,000			hours
PHYSICAL SPECIFICATIONS					
Weight		0.92oz (26g)			
Case Material		Plastic resin + fiberglass (Flammability to UL 94V-0)			
Dimensions (L x W x H)		1.44 x 1.06 x 0.67 inches (36.5 x 27.0 x 17.1 mm)			
SAFETY & EMC					
Safety Approvals		UL/cUL, CE			
EMC	EMI (Conducted and Radiated Emissions)	EN 55022 Class B			
	EMS (Noise Immunity)	EN 55024			

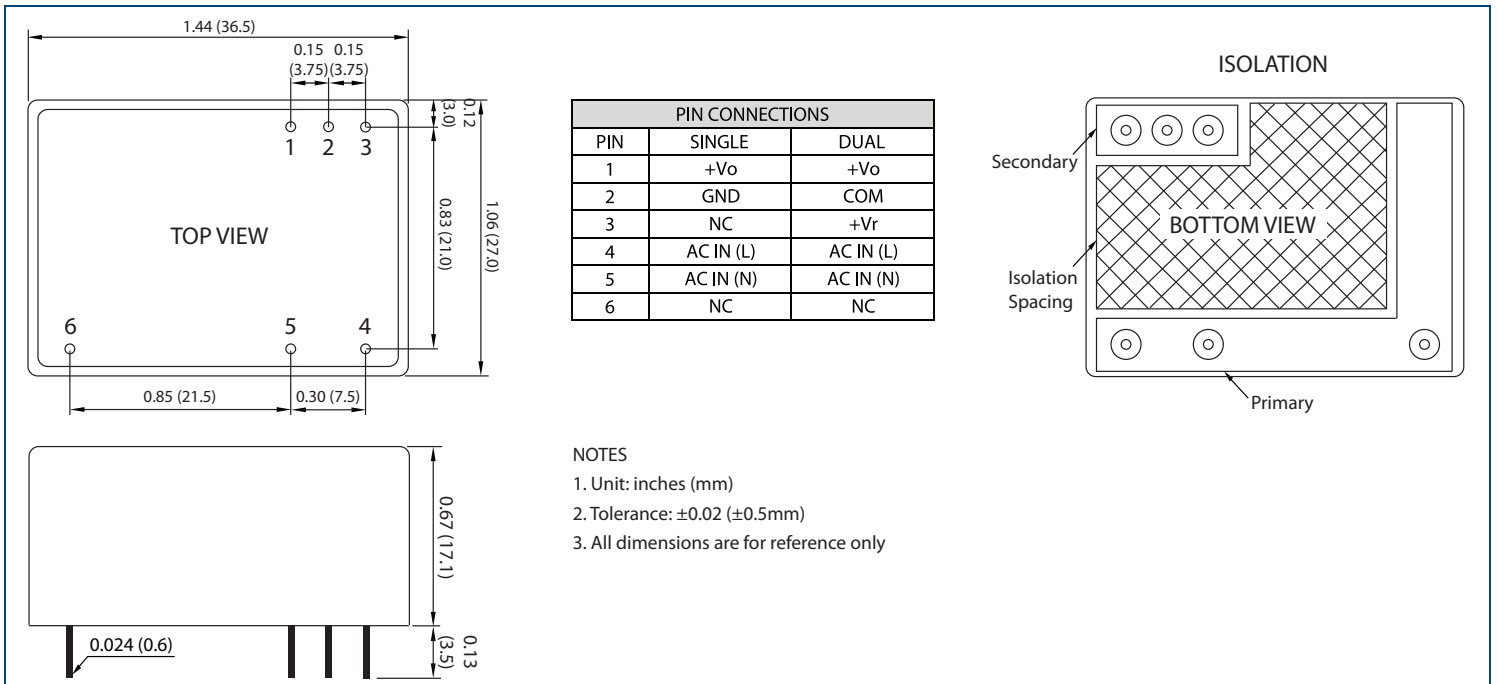
BLOCK DIAGRAMS



DERATING CURVES



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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