

Wall Industries, Inc.

PSGE35 SERIES

88~264VAC (125~373VDC) Input
Single Outputs
Up to 38.4 Watts Output Power
AC/DC Switching Power Supplies



FEATURES

- Single Output
- RoHS Compliant
- Universal AC Input / Full Range
- High Efficiency, Long Life, and High Reliability
- $\pm 10\%$ Output Voltage Adjustability
- Green Design, No-load Power Consumption $< 0.5W$
- Energy Star Compliant
- Cooling by Free Air Convection
- Power ON with LED Indicator
- All Using 105°C Long Life Electrolytic Capacitors
- High Operating Temperature: $-25^{\circ}C$ to $+70^{\circ}C$
- 100% Full Load Burn-In Tested
- Withstand 5G Vibration Test
- Brown-out (Low AC Input Voltage) Protection
- Over Voltage, Over Load, and Short Circuit Protection



DESCRIPTION

The PSGE35 series of AC/DC switching power supplies offers up to 38.4 Watts of output power in a 3.90" x 3.21" x 1.40" enclosed case. This series has a universal input voltage range of 88~264VAC (125~373VDC) and single outputs of 3.3, 5, 12, 15, 24, and 48VDC. Some features include high efficiency up to 90%, $\pm 10\%$ output adjustability, no-load power consumption $< 0.5W$, and a high operating temperature range of $-25^{\circ}C$ to $+70^{\circ}C$. This series also has over voltage, short circuit, over load, and brown-out (low AC input voltage) protection. All models have been 100% full load burn-in tested and are RoHS and Energy Star compliant. This series also has UL 60950-1, TUV EN60950-1, and CE safety approvals.

SPECIFICATIONS: PSGE35 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.

INPUT SPECIFICATIONS

Input Voltage Range	88 ~ 264VAC 125 ~ 373VDC (Withstand 300VAC surge for 5 seconds without damage)
Input Frequency	50Hz / 60Hz
AC Current	0.8A typ. at 115VAC; 0.4A typ. at 230VAC
Inrush Current	Cold Start 35A typ. at 230VAC

OUTPUT SPECIFICATIONS

Output Voltage	See Table
Output Power	See Table
Output Voltage Adjustability	±10%
Voltage Tolerance (see note 2)	3.3 VDC Output Model: ±3% 5 VDC Output Model: ±2% 12~48 VDC Output Models: ±1%
Load Regulation (see note 3)	See Table
Line Regulation	±0.5% (measured from low line to high line at full load)
Output Current	See Table
Ripple & Noise (see note 1)	See Table
Setup, Rise Time (see note 5)	1000ms, 80ms at 115VAC and full load 800ms, 80ms at 230VAC and full load
Hold-Up Time	>10ms at 115VAC and full load; >32ms at 230VAC and full load
Temperature Coefficient	±0.03% / °C (0~50°C)

PROTECTION

Short Circuit Protection	yes
Over Voltage Protection	115% ~ 150% rated output voltage Protection type: latch-off mode
Over Load Protection	>110% rated output power Protection Type: hiccup mode; recover automatically after fault condition is removed
Brown-Out Protection (Low AC Input Voltage)	yes

GENERAL SPECIFICATIONS

Efficiency	See Table	
Withstand Voltage	Input to Output	3000VAC (4242VDC) for 1 minute
	Input to FG	1500VAC (2121VDC) for 1 minute
	Output to FG	500VAC (707VDC) for 1 minute
Isolation Resistance	100MΩ at 500VDC (input to output, input to FG, output to FG)	
Leakage Current	< 2mA at 240VAC	

ENVIRONMENTAL SPECIFICATIONS

Working Temperature	-25°C to +70°C (see derating curve)
Storage Temperature	-40°C to +85°C
Working Humidity	20% to 90% RH (non-condensing)
Storage Humidity	10% to 95% RH
Vibration	10 ~ 500Hz, 5G 10min/1cycle, period for 60 minutes each along X,Y,Z axes.
Cooling	Free air convection
MTBF	468,700 hours (Compliance: MIL-HDBK-217F)

PHYSICAL SPECIFICATIONS

Weight, Packing	9.88oz (280g); 45pcs/14kg
Dimensions (L x W x H)	3.90 x 3.21 x 1.40 inches (99.0 x 81.5 x 35.5 mm)

SAFETY & EMC (see note 6)

Safety Standards	UL60950-1, 2 nd Edition, TUV EN60950-1: 2006+A11 Approved
EMI Conduction & Radiation	EN55022: 1998+A1: 2000+A2: 2003 Class B
Harmonic Current	EN61000-3-2: 2000 Class A, EN61000-3-3: 1995+A1: 2001
EMS Immunity	EN61204-3: 2000, EN55024: 1998+A1: 2001+A2: 2003 light industry level, criteria A

MODEL SELECTION TABLE

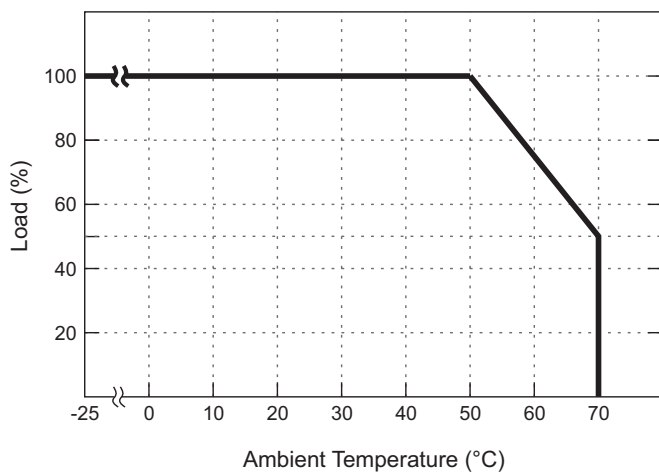
Model Number	Input Voltage Range	Output Voltage	Output Current	Load ⁽³⁾ Regulation	Output ⁽¹⁾ Ripple & Noise	Output Power	Efficiency ⁽⁴⁾
PSGE-35-3.3	88 ~264 VAC (125~373 VDC)	3.3 VDC	7A	±2.0%	100mVp-p	23.1W	78%
PSGE-35-5		5 VDC	7A	±1.0%	100mVp-p	35W	83%
PSGE-35-12		12 VDC	3A	±0.5%	120mVp-p	36W	89%
PSGE-35-15		15 VDC	2.4A	±0.5%	120mVp-p	36W	89%
PSGE-35-24		24 VDC	1.5A	±0.5%	120mVp-p	36W	88%
PSGE-35-48		48 VDC	0.8A	±0.5%	200mVp-p	38.4W	90%

NOTES

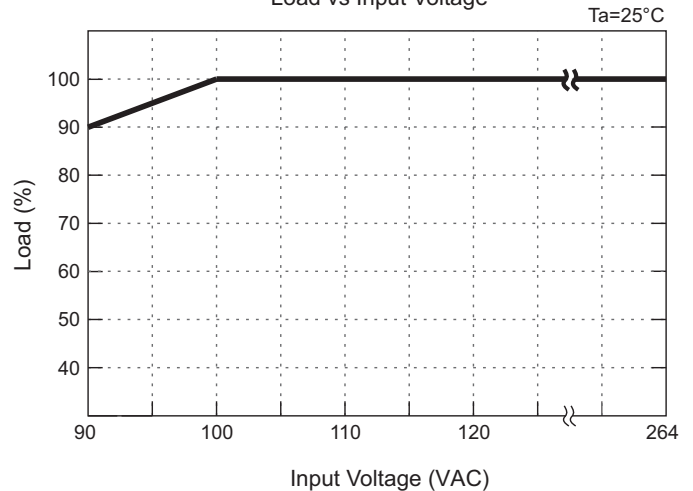
1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF capacitor and a 47µF capacitor in parallel.
2. Tolerance includes set up tolerance, line regulation, and load regulation.
3. Load regulation is measured from 0% to 100% full load.
4. Typical value at 230VAC input voltage.
5. The length of the setup time is measured at first cold start; turning the power supply ON and OFF very quickly may lead to an increase in the setup time.
6. The power supply is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

DERATING CURVES

Load vs Temperature



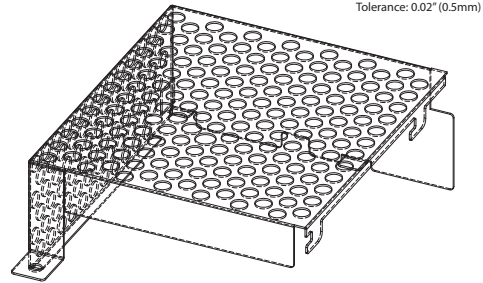
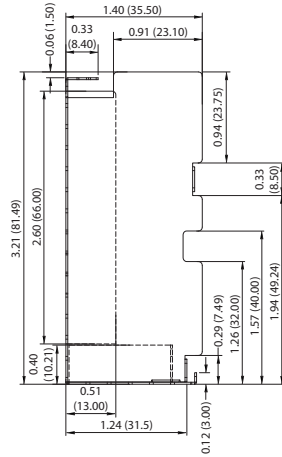
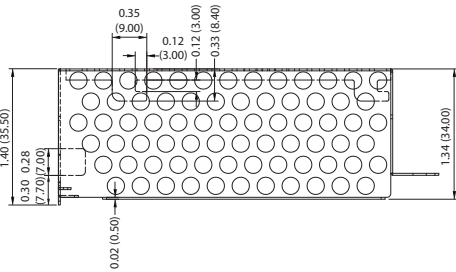
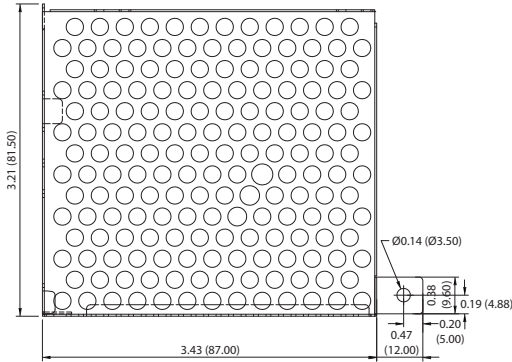
Load vs Input Voltage



MECHANICAL DRAWINGS

TOP OF CASE

Unit: inches (mm)



BOTTOM OF CASE

Unit: inches (mm)

