

FSP450-H35 A Series

FEATURES

- Class-I design
- IEC 62368-1 safety standard
- Dimension 3" x 5" x 1.343"
- EN 55032 Class B conducted emissions
- Standby power less than 0.5W

SAFETY STANDARD APPROVAL



DESCRIPTION

This AC-DC switching power supply series in a package of 3 x 5 inches is a Class-I (with Protection Earth) safety construction and feature with 0.5W low input power consumption at 0.2W load which is complying with Energy Star requirement. This PSU is capable of delivering 450 watts continuous power at 18 CFM forced air cooling or 200 watts continuous power at convection cooling and 50°C operation temperature. Product is suitable for information, audio & video and networking applications.

INPUT SPECIFICATIONS

Input voltage:	90 to 264 VAC
Input frequency:	47-63 Hz
Input current:	5.5 A (rms) for 115 VAC 2.3 A (rms) for 230 VAC
Earth leakage current:	1.5 mA max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/ current:	See rating chart.
Total output power:	450 watts maximum
Ripple and noise:	1% peak to peak on other models
Protection:	
OVP	Latch off
OCP & Shorted	Auto recovery
OTP	Latch off
Temperature coefficient:	All outputs $\pm 0.04\%$ /°C maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

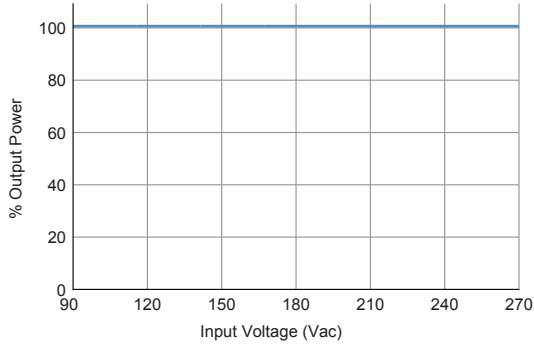
ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20°C to +70°C
Storage temperature:	-40°C to +85°C
Relative humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +50°C linearly to 50% at +70°C, applicable to convection and forced-air cooling conditions.

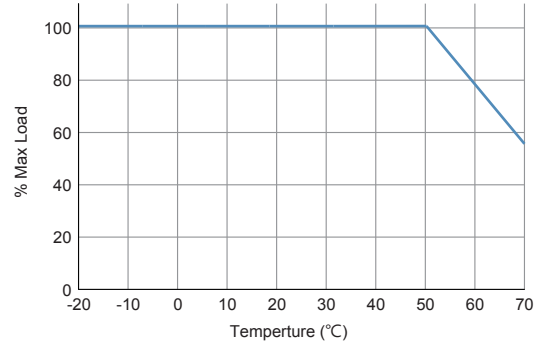
GENERAL SPECIFICATIONS

Power factor:	0.99 minimum @ 115Vac & 100% load 0.96 minimum @ 230Vac & 100% load
Efficiency:	Refer to rating table
Turn-on delay time:	≤ 3 sec at 115VAC
Hold-up time:	10 ms minimum at 115 VAC
Line regulation:	$\pm 0.2\%$ maximum at full load
Inrush current:	100A maxi. @ 115 VAC / 60 HZ, at 25°C cold start 200A maxi. @ 230 VAC / 50 HZ, at 25°C cold start
Withstand voltage:	3000 VAC from input to output 1500 VAC from input to ground, 1500 VAC from output to ground
MTBF:	270,000 hours at full load at 50°C ambient temperature, calculated per Bell Core SR-332
EMC Performance	
EN55032 /EN55035:	Class B conducted, class B radiated
FCC:	Class B conducted, class B radiated
VCCI:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, ± 8 KV air and ± 4 KV contact
EN61000-4-3:	Radiated immunity, 3 V/m
EN61000-4-4:	Fast transient/burst, ± 1 KV
EN61000-4-5:	Surge, ± 1 KV diff., ± 2 KV com.
EN61000-4-6:	Conducted immunity, 3 Vrms
EN61000-4-8:	Magnetic field immunity, 1A/m
EN61000-4-11:	Voltage dip immunity, >95% reduction for 0.5 period, 10 ms, criterion A 30% reduction for 25 period, 500 ms, criterion A >95% reduction for 250 period, 5000 ms, criterion B

INPUT VOLTAGE DERATING CURVE



OUTPUT POWER DERATING CURVE



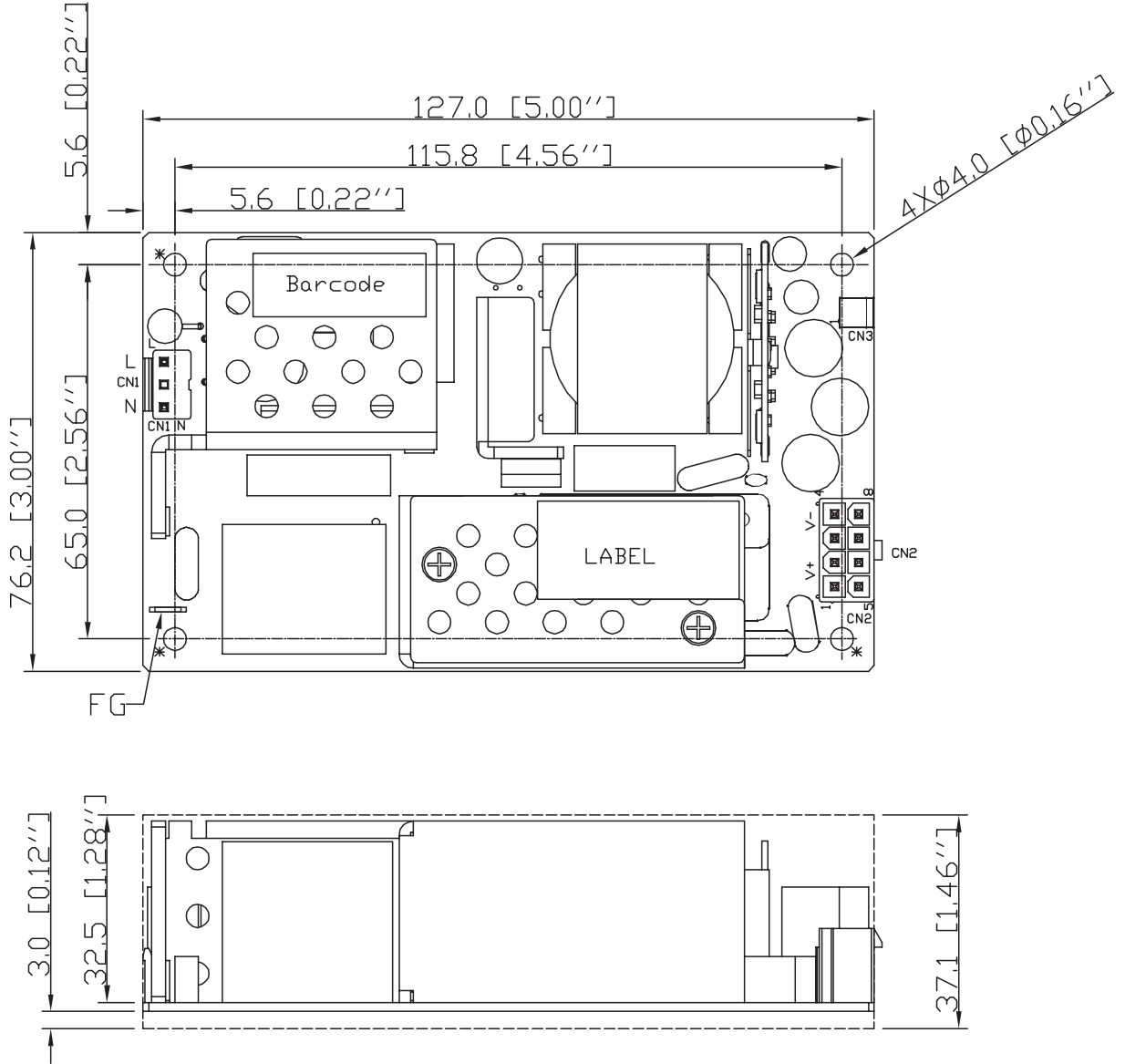
OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Output							Efficiency (typical) @ 115 / 230 VAC
	V1	Min. Current	Max. Current ⁽¹⁾		Tol.	Ripple & Noise ⁽²⁾	Max. Power ⁽¹⁾	
			Convection	Forced air				
FSP450-H35-A24	24 V	0 A	8.34A	18.75 A	±3 %	200 mV	200W / 450W	93 / 95%
FSP450-H35-A54	54 V	0 A	3.71A	8.34A	±3 %	400 mV	200W / 450W	93 / 95%

NOTES:

1. The first value of max. power is at convection cooling. The second value is with 18 CFM forced air provided by the user.
2. Ripple and noise is the maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 10 µF tantalum (or electrolytic) capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

MECHANICAL SPECIFICATIONS



CONNECTOR PIN CHART

CONNECTOR	IN1			CN2								
	PIN NO.	1	2	3	1	2	5	6	3	4	7	8
OUTPUT	Neutral	N.C.	Line	+Vout				Common Return				

NOTES:

- Dimensions are shown in mm [inches]
- Tolerance 0.5 [0.02] maximum
- CN1: JST B2P3 mating with JST housing VHR-3N, crimp pin SVH-21T-P1.1 (or SVH-41T-P1.1), or equivalent
- CN2: Molex 460271208 mating with Molex housing: 0039012085, Terminal: Molex 0039000038, or equivalent
- Ground tab: 6.35 [0.25] x 0.8 [0.032] mating with Tyco housing SPS-21T-250
- To ensure compliance with level B emissions, connect the three "*" marked mounting holes with metallic standoffs to the chassis.

Weight: 368 grams (0.81 lbs.) approx.