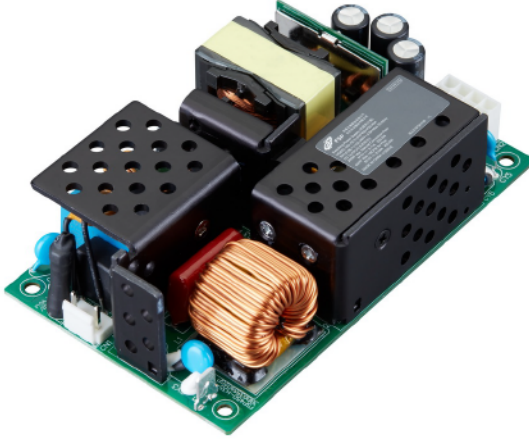


FSP450-H35 A Series

FEATURES

- Class-I design
- IEC 62368-1 safety standard
- Dimension 3" x 5" x 1.343"
- Input power less than 0.5W at 0.2W load
- EN 55032 Class B conducted emissions



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 ±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 |

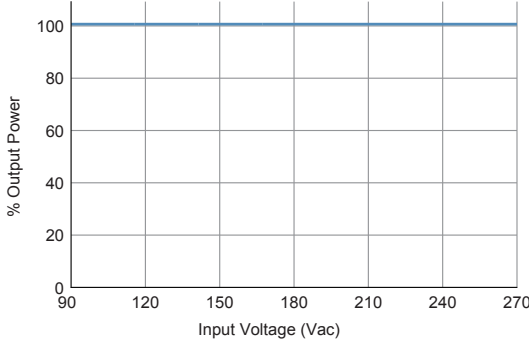
ENVIRONMENTAL SPECIFICATIONS

| | |
|------------------------|---|
| 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. |

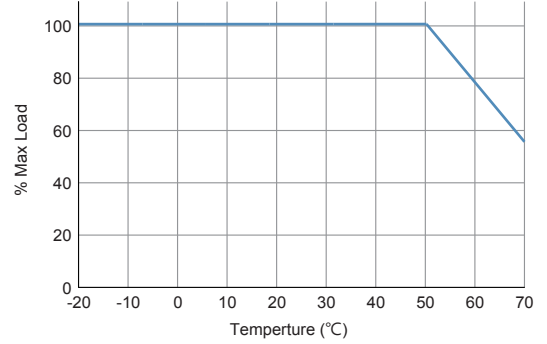
GENERAL SPECIFICATIONS

| | |
|---------------------|---|
| Power factor: | 0.99 minimum @ 115Vac & 100% load 0.96 minimum @ 230Vac & 100% load |
| Efficiency: | Refer to rating table |
| Turn-on delay time: | ≤ 3sec at 115VAC |
| Hold-up time: | 10 ms minimum at 115 VAC |
| Line regulation: | ±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



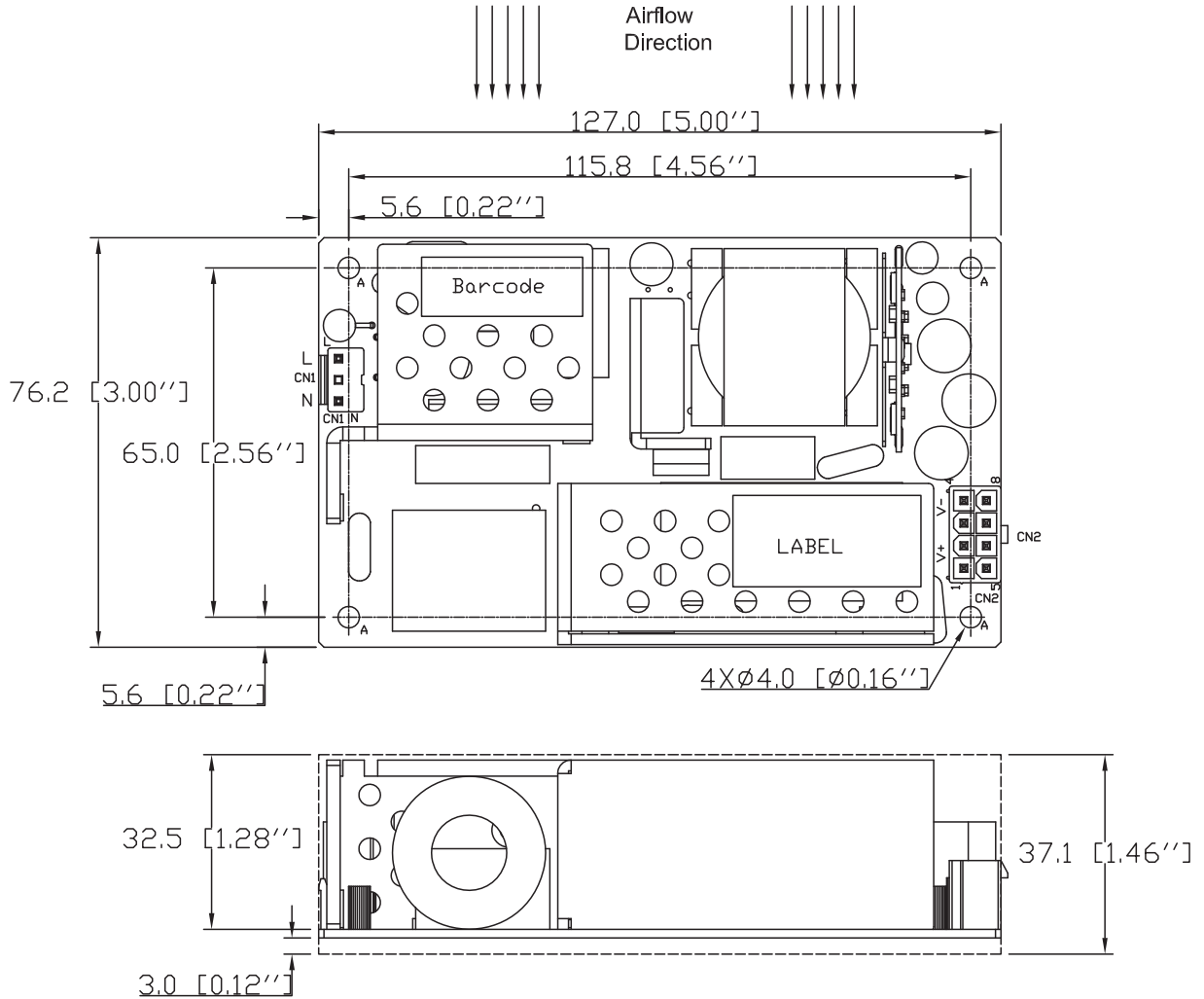
OUTPUT VOLTAGE/CURRENT RATING CHART

| 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 ⁽³⁾ | 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.
3. Please contact with the sales office for the safety certificate schedule.

MECHANICAL SPECIFICATIONS



CONNECTOR PIN CHART

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

NOTES:

1. Dimensions are shown in mm [inches]
2. Tolerance 0.5 [0.02] maximum
3. CN1: JST B2P3 mating with JST housing VHR-3N, crimp pin SVH-21T-P1.1 (or SVH-41T-P1.1), or equivalent
4. CN2: Molex 460271208 mating with Molex housing: 0039012085, Terminal: Molex 0039000038, or equivalent
5. Ground tab: 6.35 [0.25] x 0.8 [0.032] mating with Tyco housing SPS-21T-250
6. 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.