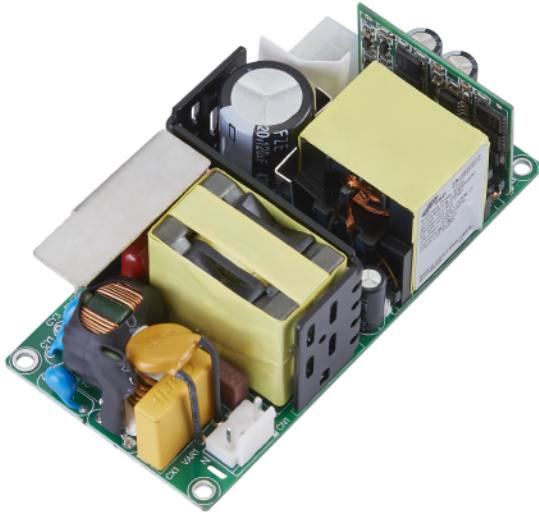




FSP250-H24 A Series

FEATURES

- Class-I design
- Design to meet IEC 62368-1 safety standard
- Input power less than 0.5W @ 0.2W load
- Compact 2"x4"x1.283"
- EN 55032 Class B radiated emission
- High altitude 5000 meters operation
- OTP, Brown out protection



SAFETY STANDARD APPROVAL



DESCRIPTION

This AC-DC switching power supplies in a package of 2 x 4 inches is a Class-I PSU and feature with 0.5W low input power consumption at 0.2W load. This PSU is capable of delivering 250 watts continuous power at 14 CFM forced air cooling or 150 watts continuous power at convection cooling and 50°C operation temperature. Product is suitable for information & networking application.

INPUT SPECIFICATIONS

| | |
|--------------------------|---|
| Input voltage: | 90-264 VAC |
| Input frequency: | 47-63 Hz |
| Input current: | 2.7A (rms) for 115 VAC 1.5 A (rms) for 230 VAC |
| Input power consumption: | ≤0.5W @ 0.2W load |
| Earth leakage current: | 0.75 mA max. @ 264 VAC, 63 Hz |
| Touch current: | 0.25 mA max. @ 264 VAC, 63 Hz |

OUTPUT SPECIFICATIONS

| | |
|--------------------------|---|
| Output voltage/current: | See rating chart. |
| Fan driver: | Without |
| Total output power: | 250W |
| Protection: | |
| Over voltage: | Latch off |
| Short circuit: | Auto recovery |
| Overcurrent: | Auto recovery |
| Over temperature: | Latch off |
| Brown-out: | Set at 70 VAC |
| Temperature coefficient: | All outputs ±0.04% /°C maximum |
| Transient response: | Maximum excursion of 5% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change |

ENVIRONMENTAL SPECIFICATIONS

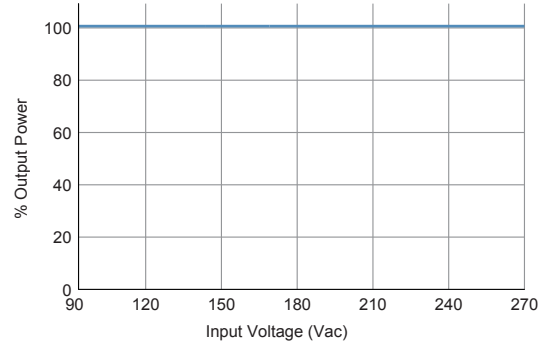
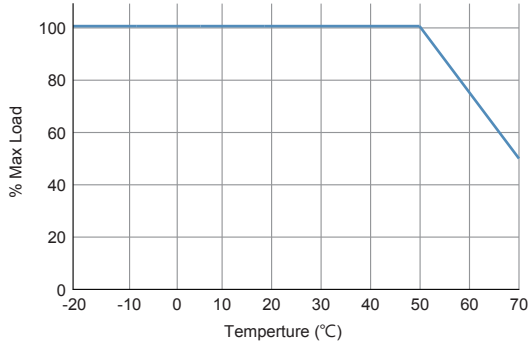
| | |
|------------------------|---|
| Operating temperature: | -20°C to +70°C |
| Storage temperature: | -40°C to +85°C |
| Relative humidity: | 5% to 95% non-condensing |
| Derating: | Derate from 100% at +50°C linearly to 50% at +70°C, applicable to both convection and forced-air cooling conditions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

GENERAL SPECIFICATIONS

| | |
|-----------------------|--|
| Power factor: | 0.98 minimum @ 115VAC & 100% load 0.90 minimum @ 230VAC & 100% load |
| Efficiency: | See rating chart. |
| Power turn-on time | 3.0 Sec maxi. |
| Hold-up time: | 10 mS minimum at 115 VAC @ 150W 5 mS minimum at 115 VAC @250W |
| Line regulation: | ±0.5% maximum at full load |
| Inrush current: | 70 A @ 115 VAC, at 25°C cold start, 130 A @ 230 VAC, at 25°C cold start, |
| Operating altitude: | 5000 meters above sea level |
| Withstand voltage: | 3000 VAC from input to output, 1500 VAC from input to ground, 500 VAC from output to ground |
| Isolation Resistance: | Input to output 100M ohm @ 500Vdc, 25°C |
| MTBF: | 200,000 hours mini. at full load at 25°C ambient, calculated per BELL CORE SR-332 |
| EMC Performance | |
| EN55032 | 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 A and 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, ±2 KV diff., ±4 KV com |
| EN61000-4-6: | Conducted immunity, 3 Vrms |
| EN61000-4-8: | Magnetic field immunity, 1 A/m |
| EN61000-4-11: | Voltage dip immunity, @ 230Vac 30% reduction for 500 ms, criteria A >95% reduction for 10 ms, criteria B >95% reduction for 5000 mS, criteria B |



OUTPUT POWER DERATING CURVE



OUTPUT VOLTAGE/CURRENT RATING CHART

| Model | Output | | | | | | | Average Active Efficiency (typical) @ 115 / 230 VAC |
|----------------|--------|-----------|-------------------------|---------------------|-----------------|-------------------------------|---------------------------|---|
| | V1 | Min. Load | Max. Current convection | Max. Current 14 CFM | Load Regulation | Ripple & Noise ⁽¹⁾ | Max. Power ⁽²⁾ | |
| FSP250-H24-A12 | 12 V | 0 A | 12.5 A | 20.83 A | ±3% | 180 mV | 150 W / 250 W | 90 / 91% |
| FSP250-H24-A54 | 54 V | 0 A | 2.78 A | 4.63 A | ±3% | 540 mV | 150 W / 250 W | 90 / 91% |

NOTES:

- Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 47 μF electrical capacitor in parallel with a 0.1 μF ceramic capacitor across the output.
- The first value of maximum current is at convection cooling. The second value is with 14 CFM forced air provided by user.

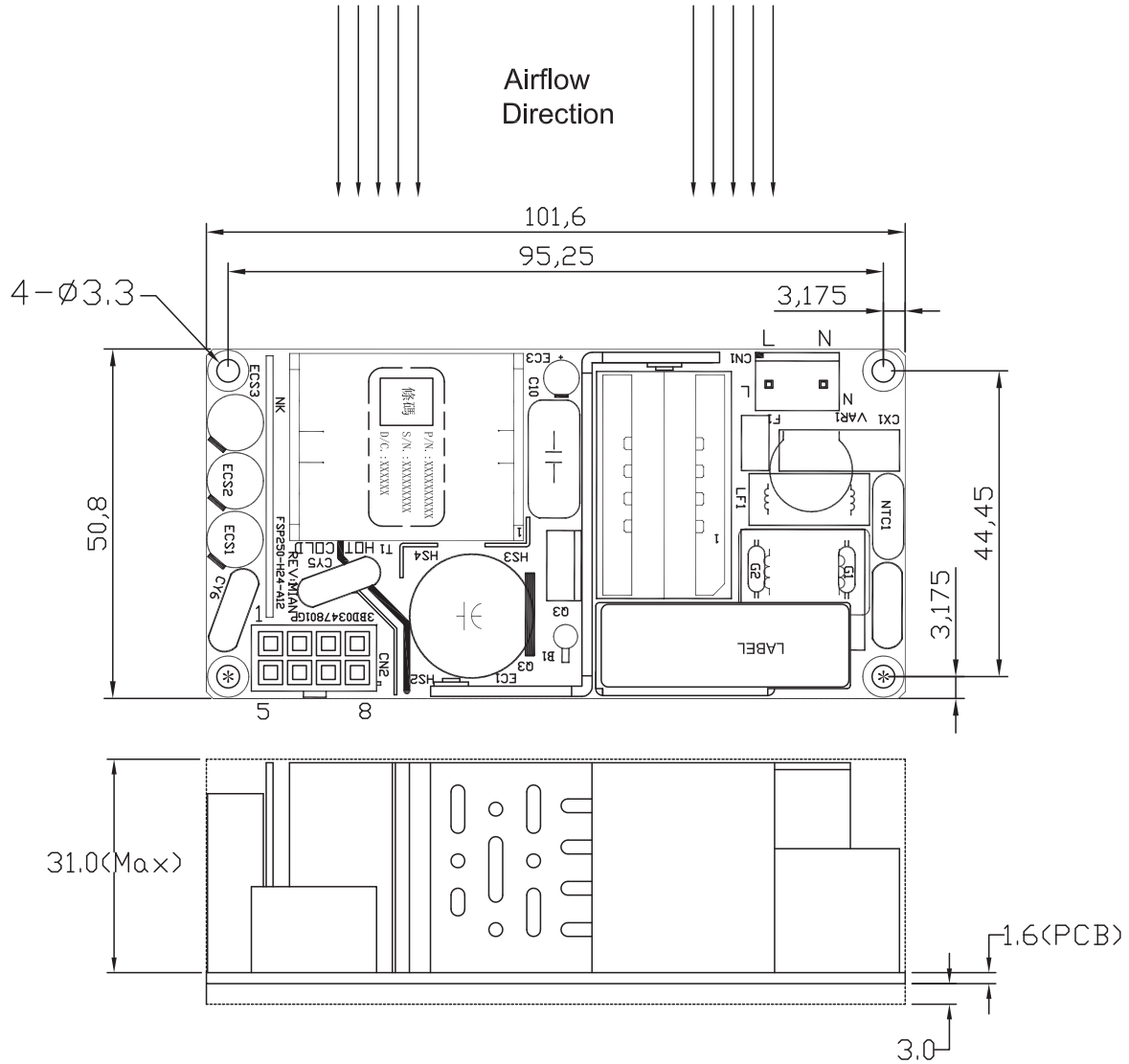


TECHNICAL DATASHEET

250W ITE Power Supplies

FSP250-H24 A Series

MECHANICAL SPECIFICATIONS



Pin assignment

1. Input connector (CN1):

| Pin No. | Function | Wafer |
|---------|----------|---------------|
| N | Neutral | J.S.T B2P3-VH |
| L | Line | or equivalent |

Matting connector:
J.S.T housing VHR-3N,
Crimp PIN SVH-21T-P1.1 or equivalent.

2. Output connector (CN2):

| Pin No. | Function | Wafer |
|---------|----------|------------------|
| 1,2,5,6 | +V | Molex 39-28-1083 |
| 3,4,7,8 | Return | or equivalent |

Matting connector:
Molex housing: 39012080 or equivalent.
Crimp terminals: 39000059 or equivalent.

NOTES:

To ensure compliance with level B emission, connect the two "*" marks mounting holes with metallic standoffs to chassis.

Weight: 245 grams (0.54 lbs.) approx.