



**UNIVERSAL INPUT**

# FSP150 SERIES

## 150 WATT

## SWITCHING POWER

## SUPPLIES

### GENERAL SPECIFICATIONS

|                             |  |
|-----------------------------|--|
| Construction                | 94V-1 rated polyphenylene-oxide case                         |
| Connectors / Terminals      | IEC 320/C14 inlet. Options for DC Out.                       |
| Efficiency                  | 88% min , at 110 VAC or 240 VAC                              |
| Turn on delay time          | 5 Sec max  |
| Power Factor                | 0.95 typical   |
| Dielectric Isolation        | 3000VAC from input to output<br>1500VAC from input to ground |
| MTBF<br>(per MIL-HDBK-217F) | 100,000 hours minimum at full load<br>at 25 °C ambient       |

### FEATURES

- ◆ Wide range input 90 to 260VAC
- ◆ Standby consumption < 1W
- ◆ Low safety ground leakage current
- ◆ Low ripple and noise
- ◆ Fast transient response
- ◆ Overcurrent, Short-circuit, Overvoltage, and Thermal protections
- ◆ 100% burn-in at full rated load
- ◆ Meets EN55022, FCC Class B, VCC, EN61000 Class A,D
- ◆ Compliant with RoHS requirements

### DESCRIPTION

This series of switching power supplies are specially designed for portable applications. They are capable of delivering up to 150 watts of continuous DC output power. Construction is a 94V-1 rated polyphenylene-oxide case with an IEC 320/C14 inlet to mate with interchangeable cord for world-wide use. All models meet CISPR 22 and FCC class B emission limits and comply with UL, CSA, IEC and CE requirements.

### INPUT SPECIFICATIONS

|  |  |
|--|--|
| Input Voltage                          | 90 to 260 VAC                                      |
| Input Frequency                        | 47 to 63 Hz  |
| Input Current                          | 2A rms @ 115VAC<br>1A rms @ 230VAC                 |
| Inrush Current<br>(at 25°C cold start) | No damage @ 115VAC or 230VAC                       |
| Leakage Current<br>(Touch current)     | 150µA max @ 115VAC 60Hz<br>250µA max @ 230VAC 50Hz |

### ENVIRONMENTAL

|                       |                               |
|-----------------------|-------------------------------|
| Operating Temperature | 0 °C to +40 °C.               |
| Storage Temperature   | -20 °C to +80 °C              |
| Operating Humidity    | 10% to 95% RH, non-condensing |

### OUTPUT SPECIFICATIONS

|  |   |
|--|---|
| Total Output Power                                       | Refer to Rating Chart for each model  |
| Output Voltage / Current,<br>Adjustability, Peak Current | Refer to Rating Chart for each model  |
| Minimum Load   | No minimum load required  |
| Hold Up Time   | 3 mSec min @ 100 VAC  |
| Line Regulation  | ±0.5% max at full load  |
| Ripple and Noise   | 350mV peak to peak max  |
| Overvoltage Protection                                   | Setting at 110-140% of Vnom output<br>voltage   |
| Overcurrent / Short Circuit<br>Protection                | Continuous protection with automatic<br>recovery  |
| Transient Response                                       | Maximum excursion of 4% or better on<br>all models, recovering to 1% of final<br>value within 500 uS after a 25% step load<br>change. |

### EMC and SAFETY (1)

|  |   |
|--|---|
| EMC Performance Standard                                     | EN60601-1-2: 2001   |
| EN61000-3-2, -3-3, -4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11 |   |
| EN55022, FCC-15, VCCI  | Class-B Conducted, Radiated                                       |
| Safety Standards<br>(certified to)                           | UL60950-1 3rd, CSA C22.2 No 60950-1<br>3rd, EN60950: 2000 (Nemko) |

(1) Products are rated for commercial environments and are not to be used nor are warranted in aerospace or life-support medical applications.



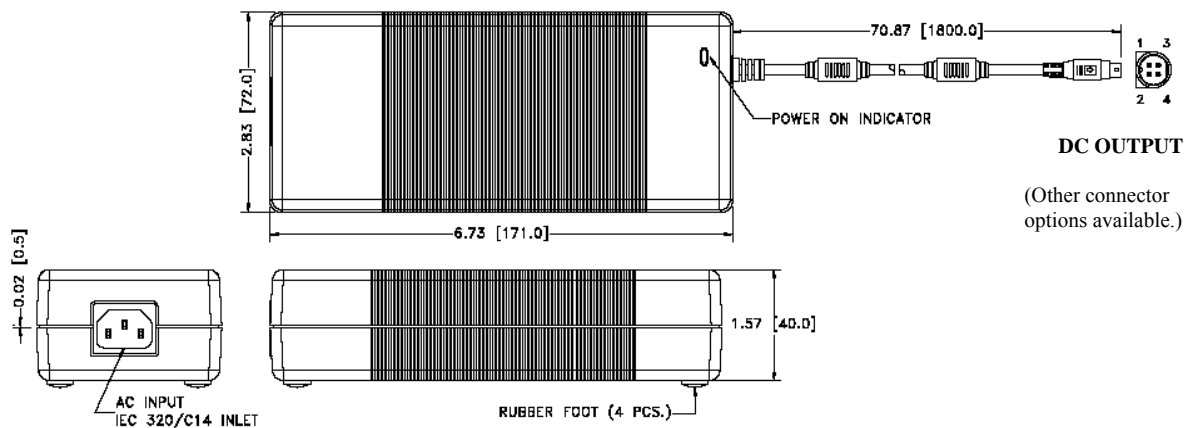
## OUTPUT VOLTAGE / CURRENT RATINGS

| MODEL      | Vnom. | I <sub>max.</sub> | I <sub>min.</sub> | Tol. | Max Output Power |
|------------|-------|-------------------|-------------------|------|------------------|
| FSP150-AHA | 12V   | 12.5A             | 0A                | 5%   | 150W             |
| FSP150-AGA | 15V   | 10.0A             | 0A                | 5%   | 150W             |
| FSP150-AAA | 19V   | 7.89A             | 0A                | 5%   | 150W             |
| FSP150-ACA | 20V   | 7.50A             | 0A                | 5%   | 150W             |
| FSP150-ABA | 24V   | 6.25A             | 0A                | 5%   | 150W             |

**NOTE:**

Ripple and noise: Measured peak-to-peak with 20MHz bandwidth and 10uF tantalum capacitor in parallel with a 0.1uF ceramic capacitor at rated line voltage and load ranges.

## MECHANICAL SPECIFICATIONS (mm / inches)



**NOTES**

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 1.76 lb, 800 grams approx.
4. DC output connector options are available. Contact Sales for details.
5. The length of output cable for 12V model is 37.4 (950.0)

## PIN ASSIGNMENTS

| MODEL \ PIN              | 1           | 2           | 3      | 4      | SHELL OF CONNECTOR |
|--------------------------|-------------|-------------|--------|--------|--------------------|
| All Models<br>FSP150-xxx | Output (+V) | Output (+V) | Return | Return | Return             |