

### TECHNICAL DATASHEET **150W ITE POWER SUPPLIES** FSP150-P35 Series



# FSP150-P35 Series

## FEATURESClass-I design

- Design to meet IEC 60950-1and IEC 62368-1 safety standard
- · Low profile 3x5x1.126 inches
- · No load power consumption less than 0.21W
- · EN 55032 Class B radiated emission
- · Surge protection ±2 KV diff, ±4 KV com
- High altitude 5000 meters operation
- OTP, Brown out protection
- · 12V fan driver

#### SAFETY STANDARD APPROVAL



#### DESCRIPTION

This AC-DC switching power supplies in a package of  $3 \times 5$  inches is a Class-I PSU and no load power consumption less than 0.21W. This PSU is capable of delivering 150 watts continuous power at 7 CFM forced air cooling or 100 watts continuous power at convection cooling and 50°C operation temperature. Product is suitable for display, information, and networking application.

#### **INPUT SPECIFICATIONS**

Input voltage:90-264 VACInput frequency:47-63 HzInput current:1.7 A (rms) for 115 VAC0.8 A (rms) for 230 VACNo load power consumption $\leq 0.21W$ Earth leakage current:0.75 mA max. @ 264 VAC, 63 HzTouch current:0.25 mA max. @ 264 VAC, 63 Hz

#### **OUTPUT SPECIFICATIONS**

Output voltage/current: See rating chart. Fan driver: Non-regulated 12V @ 500 mA max. Total output power: 150W Protection: Set at 110~122% of nominal output Over voltage: voltage. Latch off Short circuit & Output protected to short circuit Over current: condition and auto recovery Detected by thermistor and latch off Over temperature: Set at 75VAC Brown out: All outputs ±0.04% /°C maximum Temperature coefficient: Maximum excursion of 4% or better on Transient response: all models, recovering to 1% of final value within 500 us after a 25% step load change

#### **ENVIRONMENTAL SPECIFICATIONS**

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

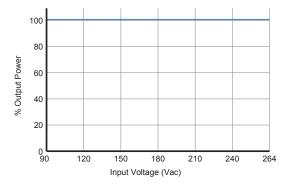
#### **GENERAL SPECIFICATIONS**

Power factor:	0.98 minimum @ 115VAC & 100% load 0.9 minimum @ 230VAC & 100% load
Efficiency:	See rating chart.
Power turn-on time:	1.0 Sec maxi.
Hold-up time:	20 mS minimum at 115 VAC @ 100W
·	8 mS minimum at 115VAC @ 150W
Line regulation:	±0.5% maximum at full load
Inrush current:	45 A @ 115 VAC, at 25°C cold start
	90 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,
	1500 VAC from output to ground
Isolation Resistance:	Input to output 100M ohm @ 500Vdc, 25℃
MTBF:	400,000 hours mini. at full load at 25°C ambient, calculat-
	ed 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,
	30% reduction for 500 ms, criteria A
	>95% reduction for 10 ms, criteria A
	>95% reduction for 5000 mS, criteria B

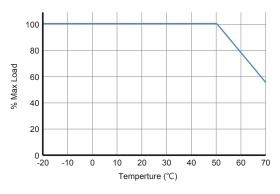


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#### INPUT VOLTAGE DERATING CURVE



#### **OUTPUT POWER DERATING CURVE**



#### **OUTPUT VOLTAGE/CURRENT RATING CHART**

		Output						Efficiency Max. Power
Model	Voltage	Min. Load	Max. Current convection	Max. Current 7 CFM	Tolerance	Ripple & Noise	Max. Power	115/230 Vac (typical)
FSP150-P35-A12	12 V	0 A	8.34 A	12.5 A	±3%	120 mV	100 W / 150 W	90 / 92%
FSP150-P35-A24	24 V	0 A	4.17 A	6.25 A	±3%	200 mV	100 W / 150 W	89 / 91%
FSP150-P35-A54	54 V	0 A	1.86 A	2.78 A	±3%	300 mV	100 W / 150 W	91 / 92%

NOTES:

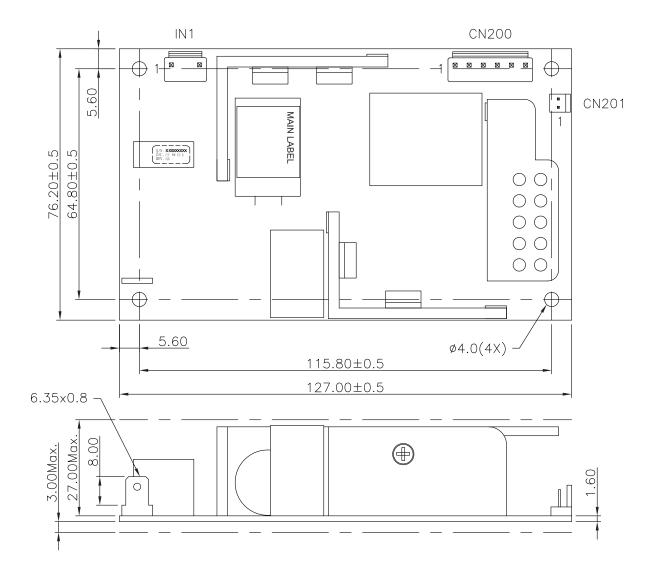
1. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 47 µF electrical capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

2. The first value of maximum current is at convection cooling. The second value is with 7 CFM forced air provided by user.



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#### **MECHANICAL SPECIFICATIONS**



Pin assignment of IN1:

Pin No.	Function	FWafer		
1	N	JW		
2		A3963WV2-3P-D		
3	L	or EQUIV		

Pin assignment of CN200:

Pin No.	Function	FWafer		
1, 2, 3	+12V	JW A3963WV2-6P		
4, 5, 6	GND	or EQUIV		

Pin assignment of CN201:

	Pin No.	Function	FWafer		
Γ	1	+12V	JW A3963WV2-2P		
	2	GND	or EQUIV		

NOTES: 1. Dimensions shown in mm.