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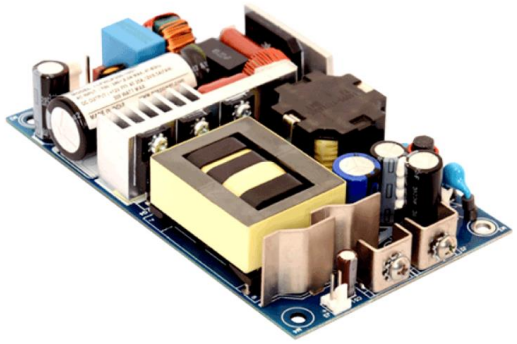
# SPJ350 Series, 350W Open Frame



## Features

- 5 x 3 x 1 Inches Form factor
- 350 Watts with Forced Air Cooling & 200 Watts Convection Cooling
- Efficiencies upto 94%
- -40 to 70 degree operating temperature*
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- 2.56m Hours, Telcordia -SR332-issue 3 MTBF
- Standby Power < 0.5W
- Approved to EN60950-1 2nd Edition

| Electrical Specifications | |
|---|---|
| Input Voltage | 90-264 VAC/390 VDC, Universal (Derate from 100% at 100V AC to 90% at 90V AC) |
| Input Frequency | 47–63 Hz |
| Input Current | 115 VAC: 3.6 A max. 230 VAC: 1.8 A max. |
| No Load Power | less than 0.5W typical |
| Inrush Current | 115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A |
| Leakage Current | 300 uA Typical |
| Efficiency | 94%(48V,58V), 93%(24V,30V), 92%(12V,15V) |
| Hold-up Time | Full Load > 8 ms typical Convection Load > 14 ms typical |
| Power Factor | exceeds 0.95 with Full Load |
| Output Power | upto 350W with 375 LFM, upto 200W Convection |
| Output Voltage Adjustability | +/-3% |
| Line Regulation | +/-0.5% |
| Load Regulation | +/-1% |
| Transient Response | 50-100% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=5% , recovery time < 5 ms |
| Rise Time | 55 ms typical |
| Set Point Tolerance | +/–1% |
| Over Current Protection | >110% ,Hiccup mode / Auto Recovery |
| Over Voltage Protection | 110 to 140% , Hiccup mode / Auto Recovery |
| Short Circuit Protection | Hiccup mode / Auto Recovery |
| Switching Frequency | PFC – 70 to 130 KHz ,PWM – 50-80 KHz |
| Operating Temperature | –40 to +70°C, * –40 to 0°C startup is guaranteed with spec deviation (ref note 6) |
| Storage Temperature | –40 to +85°C |
| Relative Humidity | 5% to 95%, noncondensing |
| Altitude | Operating: 16,000 ft.; Nonoperating: 40,000 ft. |
| MTBF | 2.56m Hours, Telcordia -SR332-issue 3 |
| Isolation Voltage | Input to Output – 3000V AC for ITE application<br>Input to GND - 1500 VAC |
| Cooling | 350W with 375 LFM forced air cooling at 100 to 264VAC<br>200W with natural convection cooling at 100 to 264VAC. |

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Available outputs:

| Model | Output Voltage | Max. Load | Min. Load | Ripple |
|---|---|---|---|---|
| SPJ350-120-XY | 12V | 15A / 25A AIR | 0.0A | 1% |
| SPJ350-120-XY | 15V | 12A / 21.60A AIR | 0.0A | 1% |
| SPJ350-120-XY | 24V | 8.33A / 14.60A AIR | 0.0A | 1% |
| SPJ350-120-XY | 30V | 6.67A / 11.67A AIR | 0.0A | 1% |
| SPJ350-120-XY | 48V | 4.17A / 7.30A AIR | 0.0A | 1% |
| SPJ350-120-XY | 58V | 3.45A / 6.04A AIR | 0.0A | 1% |

| Mechanical Specifications | |
|---|---|
| AC Input Connector (J1) | Molex: 26-60-4030<br>Mating: 09-50-3031; Pins: 08-50-0106 |
| Earth (J4) | Molex: 19705-4301<br>Mating: 19003-0001 |
| DC Output Connector (J2) Option 1 (Screw Terminal) | 6-32 inches Screw Pan HD<br>Mating: Designed to accept Ring Tongue Terminal AMP : 8-31886-1, wherein one 16 AWG(max) wire can be crimped.<br>Note : One Ring Tongue Terminal with 16 AWG is recommended for current upto 11A only. Use multiple tongue terminals with wire for more current. |
| DC Output Connector (J2) Option 2 (Molex Connector) | Molex: 26-60-4080<br>Mating: 09-50-3081; Pins: 08-50-0106 |
| Aux (Fan) Output(J3) | AMP :640456-2<br>Mating: 640440-2 |
| Dimensions | 5 x 3 x 1 inches<br>(127 x 76.2 x 25.4 mm) |
| Weight | 300 gm approx |

| EMC | | |
|---|---|---|
| Parameter | Conditions/Description | Criteria |
| Conducted Emissions | EN55032-B, CISPR22-B, FCC PART15-B | Pass |
| Radiated Emissions | EN 55032 A | Pass<br>Level B with external core (King core K5B RC 25x12x15-M in input cable) |
| Input Current Harmonics | EN 61000-3-2 | Class D |
| Voltage Fluctuation and Flicker | EN 61000-3-3 | Pass |
| ESD Immunity | EN 61000-4-2 | Level 3, Criterion A |
| Radiated Field Immunity | EN 61000-4-3 | Level 3, Criterion A |
| Electrical Fast Transient Immunity | EN 61000-4-4 | Level 3, Criterion A |
| Surge Immunity | EN 61000-4-5 | Level 3, Criterion A |
| Conducted Immunity | EN 61000-4-6 | Level 3, Criterion A |
| Magnetic Field Immunity | EN 61000-4-8 | Level 3, Criterion A |
| Voltage dips, interruptions | EN 61000-4-11 | Criterion A & B |

| Safety | |
|---|---|
| CE Mark | Complies with LVD Directive |
| Approval Agency | Nemko, UL, C-UL, CCC |
| Safety Standard(s) | EN60950-1, IEC60950-1 (ed.2), UL 60950 (ed.2), CSA C22.2 No.60950-1 (ed.2), Class I SELV, GB4943. 1-2011 ; GB9254-2008 ; GB17625. 1-2012 |

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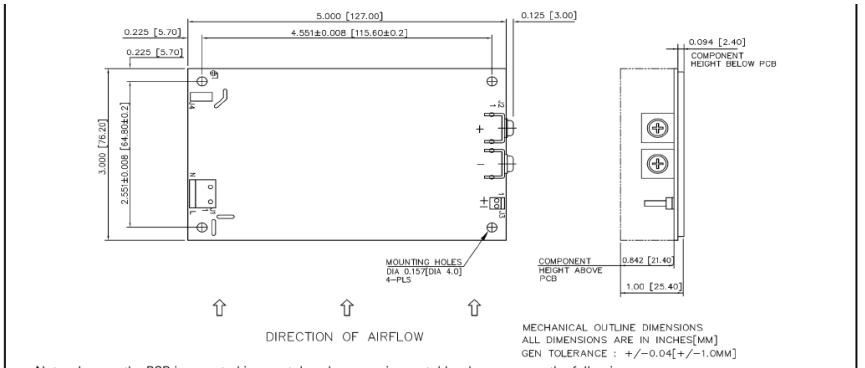
| Connectors | | |
|---|---|---|
| J1 | Pin 1 | AC LINE |
| | Pin 2 | NOT FITTED |
| | Pin 3 | AC NEUTRAL |
| J2 Option 1 | Pin 1 | V1 +VE |
| (Screw Terminal) | Pin 2 | V1 -VE |
| J2 Option 2 | Pin 1,2,3,4 | V1 +VE |
| (Molex Connector) | Pin 5,6,7,8 | V1 -VE |
| J3 | Pin 1 | FAN +VE |
| | Pin 2 | FAN -VE |

Mechanical drawing single-output with Terminal Screws

Mechanical Drawing




Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following
1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.

Mechanical drawing single-output with Molex Terminal

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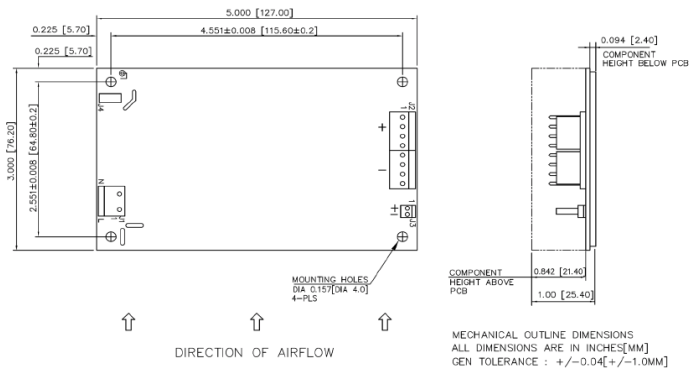
## Mechanical Drawing

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