

320W Single Output with PFC Function

SP-320 series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit/Over load/Over voltage/Over temperature
- Forced air cooling by built-in DC Fan
- Built-in fan speed control
- Fixed switching frequency at 100KHz
- 3 years warranty

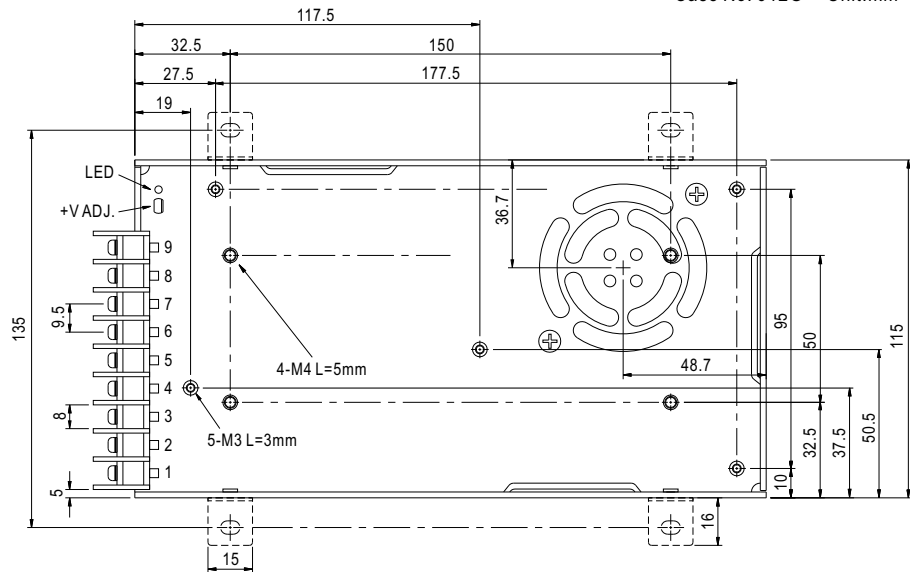


SPECIFICATION

| MODEL | | SP-320-3.3 | SP-320-5 | SP-320-7.5 | SP-320-12 | SP-320-13.5 | SP-320-15 | SP-320-24 | SP-320-27 | SP-320-36 | SP-320-48 | |
|-----------------------|--|---|--------------|-----------------------------|--------------|--------------|------------|--------------|--------------|--------------|--------------|--|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 7.5V | 12V | 13.5V | 15V | 24V | 27V | 36V | 48V | |
| | RATED CURRENT | 55A | 55A | 40A | 25A | 22A | 20A | 13A | 11.7A | 8.8A | 6.7A | |
| | CURRENT RANGE | 0 ~ 60A | 0 ~ 55A | 0 ~ 40A | 0 ~ 25A | 0 ~ 22A | 0 ~ 20A | 0 ~ 13A | 0 ~ 11.7A | 0 ~ 8.8A | 0 ~ 6.7A | |
| | RATED POWER | 181.5W | 275W | 300W | 300W | 297W | 300W | 312W | 315.9W | 316.8W | 321.6W | |
| | RIPPLE & NOISE (max.) Note.2 | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 200mVp-p | 220mVp-p | 240mVp-p | |
| | VOLTAGE ADJ. RANGE | 3.14 ~ 3.63V | 4.5 ~ 5.5V | 6 ~ 9V | 10 ~ 13.2V | 12 ~ 15V | 13.5 ~ 18V | 20 ~ 26.4V | 26 ~ 31.5V | 32.4 ~ 39.6V | 41 ~ 56V | |
| | VOLTAGE TOLERANCE Note.3 | ±1.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% | |
| | LOAD REGULATION | ±1.5% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| | SETUP, RISE TIME | 800ms, 50ms/230VAC 2500ms, 50ms/115VAC at full load | | | | | | | | | | |
| HOLD TIME (Typ.) | 16ms/230VAC 16ms/115VAC at full load | | | | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.5 | 88 ~ 264VAC | | 124 ~ 370VDC | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC | | PF>0.98/115VAC at full load | | | | | | | | |
| | EFFICIENCY (Typ.) | 74% | 79% | 83% | 86% | 86% | 86% | 87% | 88% | 87% | 89% | |
| | AC CURRENT (Typ.) | 115VAC | 2.5A | 5A | | | | | | | | |
| | | 230VAC | 1.5A | 2.5A | | | | | | | | |
| | INRUSH CURRENT (Typ.) | 20A/115VAC | | 40A/230VAC | | | | | | | | |
| LEAKAGE CURRENT | <1mA / 240VAC | | | | | | | | | | | |
| PROTECTION | OVER LOAD | 105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | | | |
| | OVER VOLTAGE | 3.8 ~ 4.5V | 5.75 ~ 6.75V | 9.4 ~ 10.9V | 13.8 ~ 16.2V | 15.5 ~ 18.2V | 18 ~ 21V | 27.6 ~ 32.4V | 33.7 ~ 39.2V | 45 ~ 52.5V | 57.6 ~ 67.2V | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | |
| OVER TEMPERATURE | 80°C ±5°C (70°C ±5°C 3.3V,5V only) (TSW1 : Detect on heatsink of power transistor) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down | | | | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +65°C (Refer to output load derating curve) | | | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85°C, 10 ~ 95% RH | | | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | UL60950-1, TUV EN60950-1 Approved | | | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC | | | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC | | | | | | | | | | |
| | EMI CONDUCTION & RADIATION | Compliance to EN55022 (CISPR22) Class B | | | | | | | | | | |
| | HARMONIC CURRENT | Compliance to EN61000-3-2,-3 | | | | | | | | | | |
| | EMS IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A | | | | | | | | | | |
| OTHERS | MTBF | 207K hrs min. MIL-HDBK-217F (25°C) | | | | | | | | | | |
| | DIMENSION | 215*115*50mm (L*W*H) | | | | | | | | | | |
| | PACKING | 1.1Kg; 12pcs/14Kg/0.92CUFT | | | | | | | | | | |
| NOTE | <ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details. | | | | | | | | | | | |

Mechanical Specification

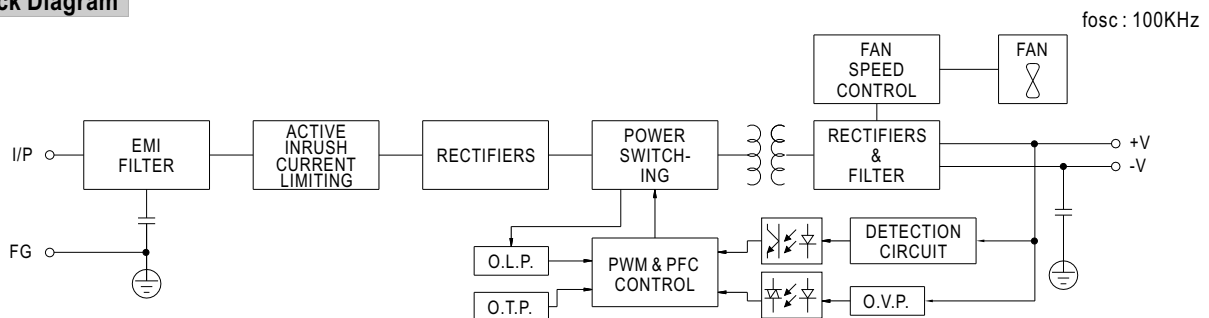
Case No. 912G Unit:mm



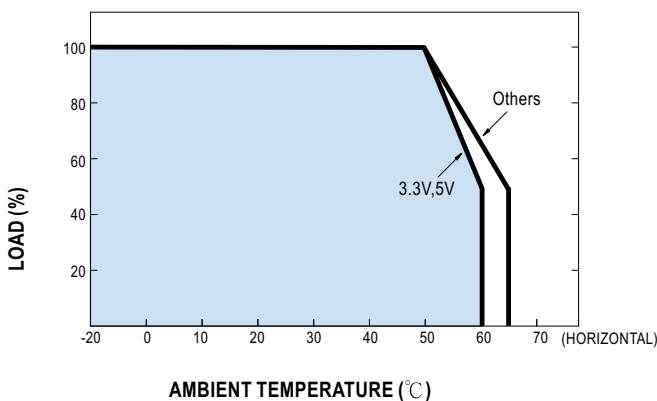
Terminal pin number assignment :

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|--------------|
| 1 | AC/L | 4~6 | DC OUTPUT -V |
| 2 | AC/N | 7~9 | DC OUTPUT +V |
| 3 | FG | | |

Block Diagram



Derating Curve



Static Characteristics

