MEAN WELL

100W Single Output Switching Power Supply

# S-100 series

## Features :

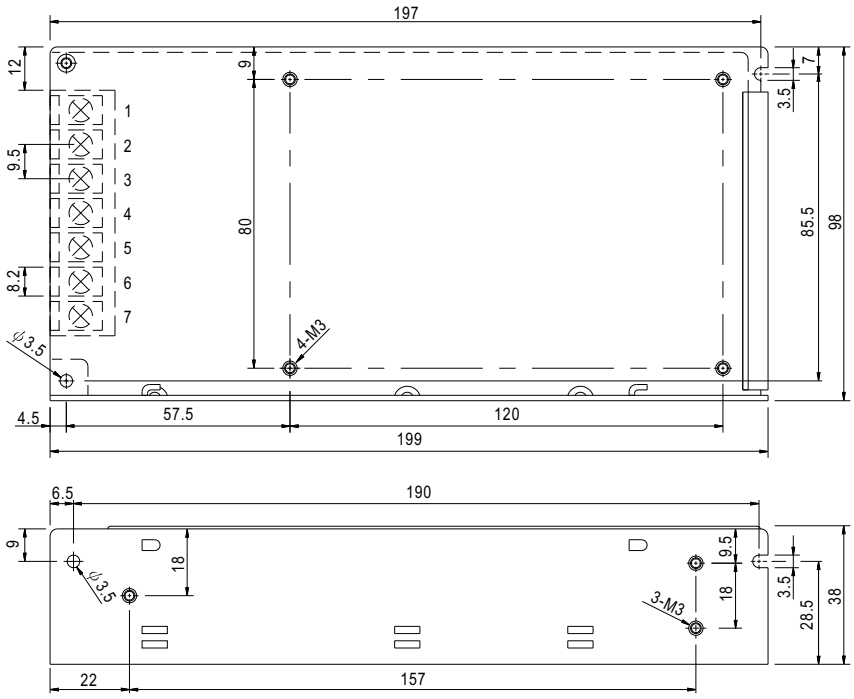
- AC input range selectable by switch
- Protections: Short circuit / Overload
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 25KHz
- Low cost
- High reliability
- 1 year warranty

## SPECIFICATION

| MODEL | | S-100-3 | S-100-5 | S-100-7.5 | S-100-10 | S-100-12 | S-100-15 | S-100-18 | S-100-24 | S-100-27 | S-100-36 | S-100-48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OUTPUT | DC VOLTAGE | 3V | 5V | 7.5V | 10V | 12V | 15V | 18V | 24V | 27V | 36V | 48V |
| | RATED CURRENT | 20A | 20A | 13.6A | 10A | 8.5A | 6.7A | 5.6A | 4.5A | 3.7A | 2.7A | 2A |
| | CURRENT RANGE | 0 ~ 20A | 0 ~ 20A | 0 ~ 13.6A | 0 ~ 10A | 0 ~ 8.5A | 0 ~ 6.7A | 0 ~ 5.6A | 0 ~ 4.5A | 0 ~ 3.7A | 0 ~ 2.7A | 0 ~ 2A |
| | RATED POWER | 60W | 100W | 102W | 100W | 102W | 100.5W | 100.8W | 108W | 99.9W | 97.2W | 96W |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p |
| | VOLTAGE ADJ. RANGE | 2.85 ~ 3.3V | 4.75 ~ 5.5V | 6.75 ~ 8.25V | 9 ~ 11V | 10.8 ~ 13.2V | 13.5 ~ 16.5V | 16.2 ~ 19.8V | 21.6 ~ 26.4V | 26 ~ 32V | 32.4 ~ 39.6V | 43.2 ~ 52.8V |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±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% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% |
| | LOAD REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% |
| | SETUP, RISE TIME | 200ms, 80ms at full load | | | | | | | | | | |
| | HOLD UP TIME (Typ.) | 24ms at full load | | | | | | | | | | |
| INPUT | VOLTAGE RANGE | 85 ~ 132VAC/180 ~ 264VAC selected by switch 255 ~ 370VDC | | | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | | | |
| | EFFICIENCY (Typ.) | 70% | 78% | 80% | 80% | 81% | 81% | 82% | 84% | 84% | 84% | 84% |
| | AC CURRENT (Typ.) | 1.9A/115VAC 0.96A/230VAC | | | | | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 27A/115VAC 54A/230VAC | | | | | | | | | | |
| | LEAKAGE CURRENT | <1mA / 240VAC | | | | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 150% rated output power (130 ~ 180% of rated output power for S-100-5, S-100-36 ; 150 ~ 200% of rated output power for S-100-7.5 ) | | | | | | | | | | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -10 ~ +60℃ (Refer to output load derating curve) | | | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 50℃) | | | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | | | | |
| SAFETY & EMC | SAFETY STANDARDS | Design refer to UL1012 | | | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:1.5KVAC 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 | Design refer to FCC Part15 J Conduction Class B | | | | | | | | | | |
| OTHERS | MTBF | 322.4K hrs min. MIL-HDBK-217F (25℃) | | | | | | | | | | |
| | DIMENSION | 199*98*38mm (L*W*H) | | | | | | | | | | |
| | PACKING | 0.62Kg; 20pcs/13.6Kg/0.8CUFT | | | | | | | | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation. | | | | | | | | | | | |

## ■ Mechanical Specification

Case No. 902 Unit:mm

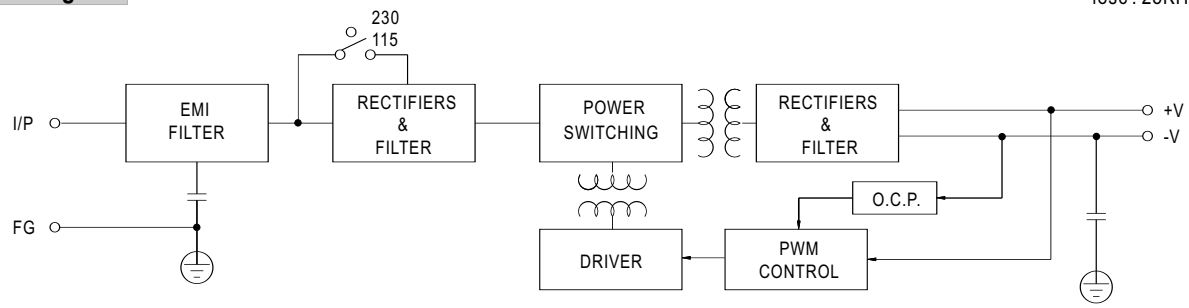



Terminal Pin No. Assignment

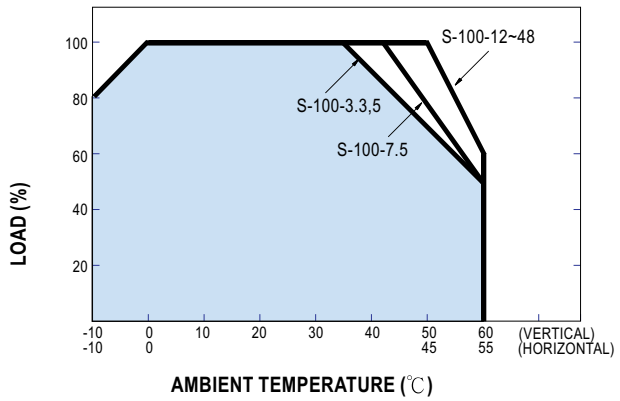
| Pin No. | Assignment | Pin No. | Assignment |
|---|---|---|---|
| 1 | AC/L | 4,5 | DC OUTPUT -V |
| 2 | AC/N | 6,7 | DC OUTPUT +V |
| 3 | FG ⏚ | | |

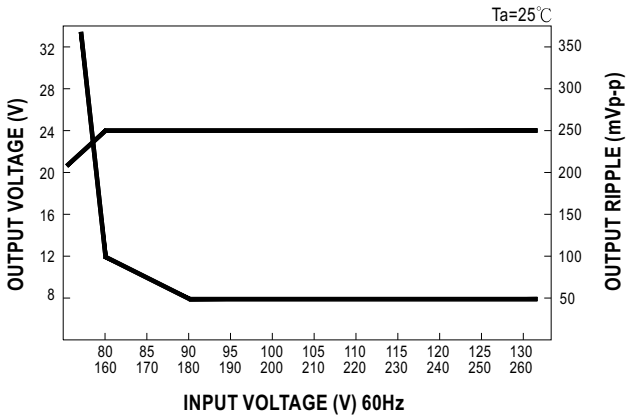
## ■ Block Diagram

fosc : 25KHz




## ■ Derating Curve




## ■ Static Characteristics (24V)