# 50W Single Output Switching Power Supply

# RS-50 series

## Features :

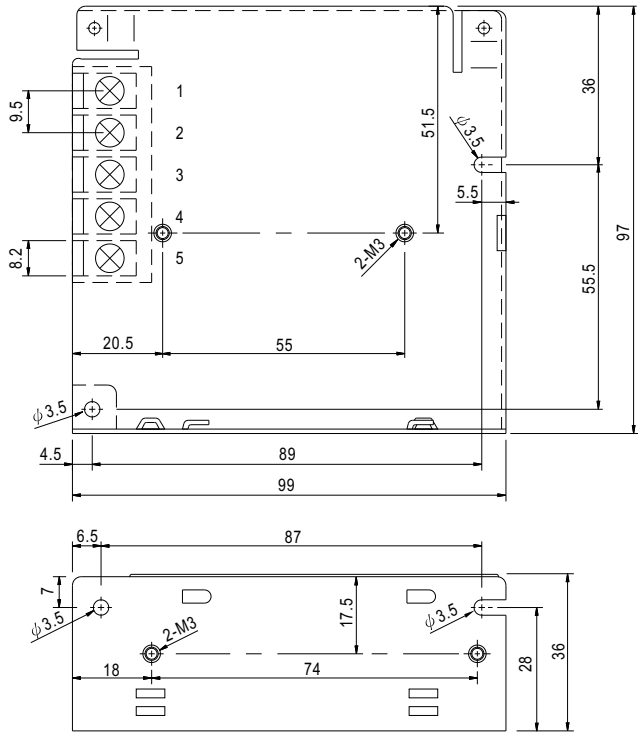
- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- All using 105℃ long life electrolytic capacitors
- Withstand 300VAC surge input for 5 second
- High operating temperature up to 70℃
- Withstand 5G vibration test
- No load power consumption<0.5W
- High efficiency, long life and high reliability
- 3 years warranty

## SPECIFICATION

| MODEL | | RS-50-3.3 | RS-50-5 | RS-50-12 | RS-50-15 | RS-50-24 | RS-50-48 |
|---|---|---|---|---|---|---|---|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 12V | 15V | 24V | 48V |
| | RATED CURRENT | 10A | 10A | 4.2A | 3.4A | 2.2A | 1.1A |
| | CURRENT RANGE | 0 ~ 10A | 0 ~ 10A | 0 ~ 4.2A | 0 ~ 3.4A | 0 ~ 2.2A | 0 ~ 1.1A |
| | RATED POWER | 33W | 50W | 50.4W | 51W | 52.8W | 52.8W |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 80mVp-p | 120mVp-p | 120mVp-p | 120mVp-p | 200mVp-p |
| | VOLTAGE ADJ. RANGE | 3V ~ 3.6V | 4.75 ~ 5.5V | 10.8 ~ 13.2V | 13.5 ~ 16.5V | 22 ~ 27.2V | 42 ~ 54V |
| | VOLTAGE TOLERANCE Note.3 | ±3.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION Note.4 | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | LOAD REGULATION Note.5 | ±2.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| | SETUP, RISE TIME | 500ms, 30ms/230VAC 1200ms, 30ms/115VAC at full load | | | | | |
| | HOLD UP TIME (Typ.) | 60ms/230VAC 14ms/115VAC at full load | | | | | |
| INPUT | VOLTAGE RANGE | 88 ~ 264VAC 125 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage) | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | |
| | EFFICIENCY(Typ.) | 78% | 83% | 84.5% | 86% | 88% | 89% |
| | AC CURRENT (Typ.) | 1.3A/115VAC 0.8A/230VAC | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 33A/230VAC | | | | | |
| | LEAKAGE CURRENT | <2mA / 240VAC | | | | | |
| PROTECTION | OVERLOAD | 110 ~ 150% rated output power | | | | | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | |
| | OVER VOLTAGE | 3.8 ~ 4.45V | 5.75 ~ 6.75V | 13.8 ~ 16.2V | 17.25 ~ 20.25V | 27.6 ~ 32.4V | 55.2 ~ 64.8V |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | |
| ENVIRONMENT | WORKING TEMP. | -25 ~ +70℃ (Refer to "Derating Curve") | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85℃, 10 ~ 95% RH | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 50℃) | | | | | |
| | VIBRATION | 10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | |
| SAFETY & EMC (Note 6) | 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 / 25℃/ 70% RH | | | | | |
| | EMC EMISSION | Compliance to EN55022 (CISPR22) Class B, EN61000-3-2,-3 | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61000-6-2 (EN50082-2), heavy industry level, criteria A | | | | | |
| OTHERS | MTBF | 228Khrs min. MIL-HDBK-217F (25℃) | | | | | |
| | DIMENSION | 99*97*36mm (L*W*H) | | | | | |
| | PACKING | 0.41Kg; 45pcs/19.5Kg/0.9CUFT | | | | | |
| 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.<br>4. Line regulation is measured from low line to high line at rated load.<br>5. Load regulation is measured from 0% to 100% rated load.<br>6. 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com) | | | | | | |

## ■ Mechanical Specification

Case No. 905B Unit:mm

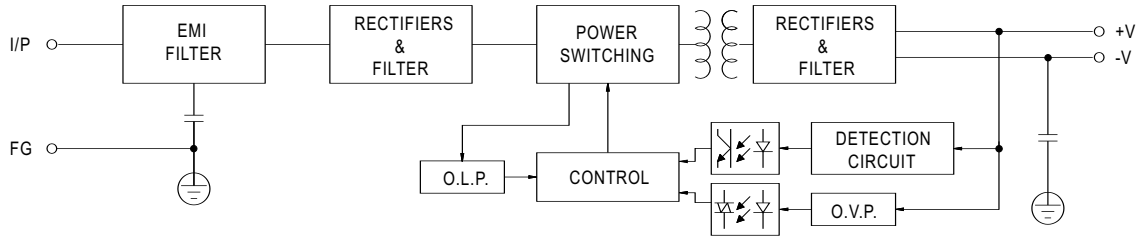



Terminal Pin No. Assignment

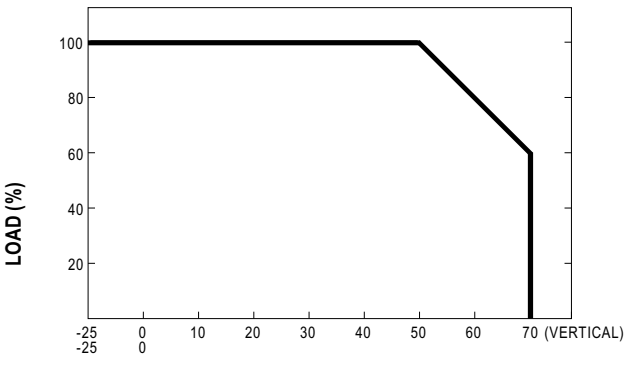
| Pin No. | Assignment | Pin No. | Assignment |
|---|---|---|---|
| 1 | AC/L | 4 | DC OUTPUT -V |
| 2 | AC/N | 5 | DC OUTPUT +V |
| 3 | FG ⏚ | | |

## ■ Block Diagram

fosc : 60KHz

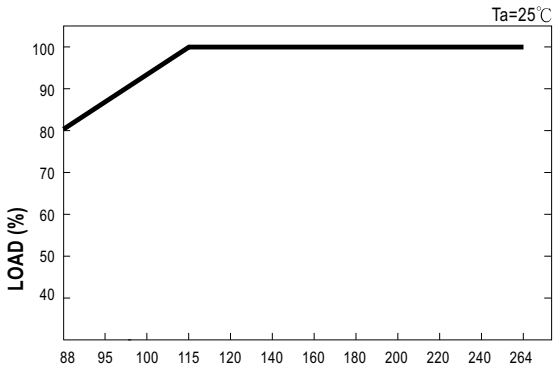



## ■ Derating Curve




AMBIENT TEMPERATURE (℃)

## ■ Output Derating VS Input Voltage




INPUT VOLTAGE (VAC) 60Hz