

**Professionally approved products.**

## **Datasheet**

### **RS 202.5W, 1 Output, Embedded Switch Mode Power Supply (SMPS), 27V dc, 7.5A**

**RS Stock number 777-2890**



#### ■ Features :

- Universal AC input / Full range
- Built-in active PFC function,  $PF > 0.95$
- High efficiency up to 90%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- 1U low profile 30mm
- Optional conformal coating models (RSP-200-□CC)
- LED indicator for power on
- 3 years warranty

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## SPECIFICATION

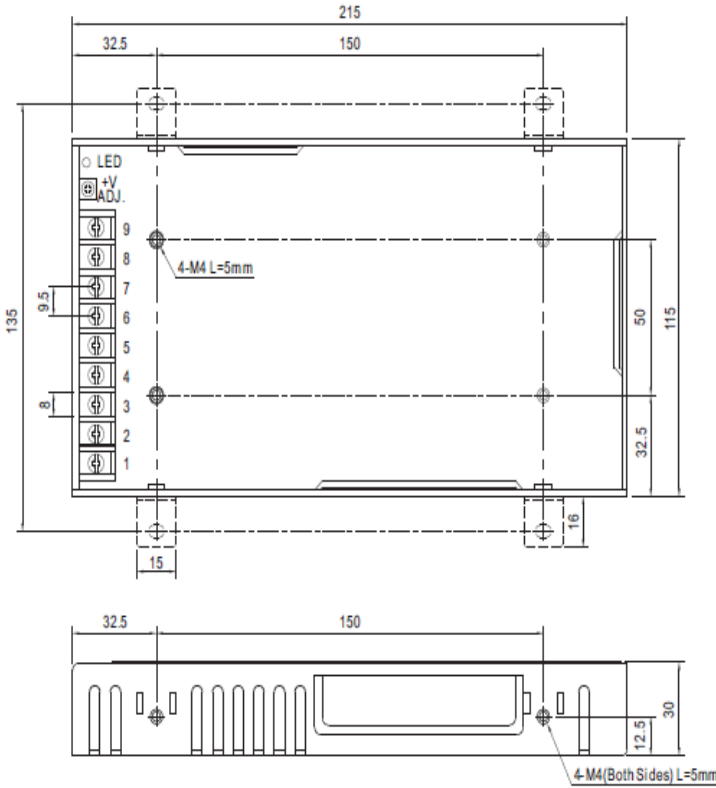
| MODEL                 |                              | RSP-200-2.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | RSP-200-3.3  | RSP-200-4  | RSP-200-5   | RSP-200-7.5 | RSP-200-12   |
|-----------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|-------------|-------------|--------------|
| OUTPUT                | DC VOLTAGE                   | 2.5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3.3V         | 4V         | 5V          | 7.5V        | 12V          |
|                       | RATED CURRENT                | 40A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 40A          | 40A        | 40A         | 26.7A       | 16.7A        |
|                       | CURRENT RANGE                | 0 ~ 40A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0 ~ 40A      | 0 ~ 40A    | 0 ~ 40A     | 0 ~ 26.7A   | 0 ~ 16.7A    |
|                       | RATED POWER                  | 100W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 132W         | 160W       | 200W        | 200.25W     | 200.4W       |
|                       | RIPPLE & NOISE (max.) Note.2 | 100mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 100mVp-p     | 100mVp-p   | 150mVp-p    | 150mVp-p    | 150mVp-p     |
|                       | VOLTAGE ADJ. RANGE           | 2.35 ~ 2.85V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.97 ~ 3.8V  | 3.7 ~ 4.3V | 4.5 ~ 5.5V  | 6 ~ 9V      | 10 ~ 13.2V   |
|                       | VOLTAGE TOLERANCE Note.3     | ±2.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ±2.0%        | ±2.0%      | ±2.0%       | ±2.0%       | ±1.0%        |
|                       | LINE REGULATION              | ±0.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ±0.5%        | ±0.5%      | ±0.5%       | ±0.5%       | ±0.3%        |
|                       | LOAD REGULATION              | ±1.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ±1.5%        | ±1.0%      | ±1.0%       | ±1.0%       | ±0.5%        |
|                       | SETUP, RISE TIME             | 1500ms, 50ms/230VAC 3000ms, 50ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |            |             |             |              |
|                       | HOLD UP TIME (Typ.)          | 8ms at full load 230VAC/115VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |             |             |              |
| INPUT                 | VOLTAGE RANGE Note.4         | 88 ~ 264VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 124 ~ 370VDC |            |             |             |              |
|                       | FREQUENCY RANGE              | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |            |             |             |              |
|                       | POWER FACTOR (Typ.)          | PF>0.95/230VAC PF>0.98/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |            |             |             |              |
|                       | EFFICIENCY (Typ.)            | 81.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 84%          | 85.5%      | 87%         | 89%         | 89%          |
|                       | AC CURRENT (Typ.)            | 2A/115VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.1A/230VAC  |            | 3.5A/115VAC | 1.7A/230VAC |              |
|                       | INRUSH CURRENT (Typ.)        | 20A/115VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 40A/230VAC   |            |             |             |              |
|                       | LEAKAGE CURRENT              | <1mA / 240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |            |             |             |              |
| PROTECTION            | OVERLOAD                     | 105 ~ 135% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |            |             |             |              |
|                       | OVER VOLTAGE                 | 2.88 ~ 3.5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.8 ~ 4.62V  | 4.5 ~ 5.6V | 5.75 ~ 7V   | 9.4 ~ 10.9V | 13.8 ~ 16.2V |
|                       |                              | Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |            |             |             |              |
|                       | OVER TEMPERATURE             | 110°C±5°C (TSW1) detect on heatsink of main power output choke<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |            |             |             |              |
| ENVIRONMENT           | WORKING TEMP.                | -30 ~ +70°C (Refer to "Derating Curve")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |            |             |             |              |
|                       | WORKING HUMIDITY             | 20 ~ 90% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |            |             |             |              |
|                       | STORAGE TEMP., HUMIDITY      | -40 ~ +85°C, 10 ~ 95% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |             |             |              |
|                       | TEMP. COEFFICIENT            | ±0.03%/°C (0 ~ 45°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |            |             |             |              |
|                       | VIBRATION                    | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |            |             |             |              |
| SAFETY & EMC (Note 5) | SAFETY STANDARDS             | UL60950-1, TUV EN60950-1 approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |            |             |             |              |
|                       | WITHSTAND VOLTAGE            | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |            |             |             |              |
|                       | ISOLATION RESISTANCE         | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 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, EN55024, light industry level, criteria A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |            |             |             |              |
| OTHERS                | MTBF                         | 224.5K hrs min. MIL-HDBK-217F (25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |            |             |             |              |
|                       | DIMENSION                    | 215*115*30mm (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |            |             |             |              |
|                       | PACKING                      | 0.72Kg, 15pcs/11.8Kg/0.78CUFT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |            |             |             |              |
| NOTE                  |                              | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. Derating may be needed under low input voltages. Please check the derating curve for more details.<br>5. 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."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) |              |            |             |             |              |

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### Mechanical Specification

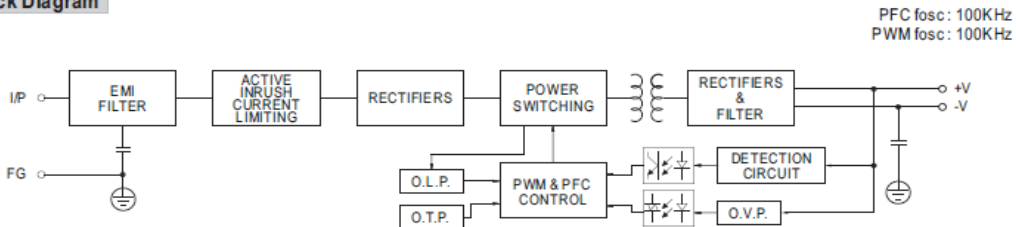
Case No.207B Unit:mm



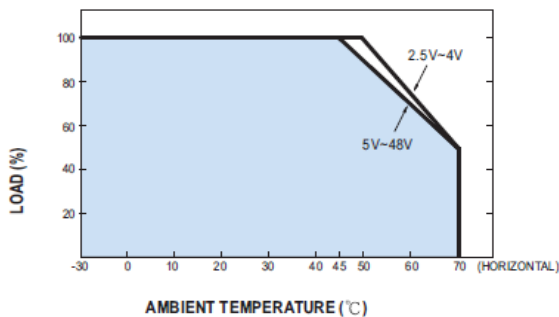
Terminal Pin No. Assignment :

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

### Block Diagram



### Derating Curve



### Static Characteristics

