**Features**
- Universal AC input / Full range
- Withstand 300VAC surge input for 5 second
- No load power consumption< 0.2W
- Miniature size and 1U low profile
- High operating temperature up to 70℃
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Compliance to IEC/EN 60335-1(PD3) and IEC/EN61558-1, -2-16 for household appliances
- Operating altitude up to 5000 meters (Note.8)
- Withstand 5G vibration test
- High efficiency, long life and high reliability
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

**Description**
LRS-50 series is a 50W single-output enclosed type power supply with 30mm of low profile design. Adopting the full range 85~264VAC input, the entire series provides an output voltage line of 3.3V, 5V, 12V, 15V, 24V, 36V and 48V.

In addition to the high efficiency up to 90%, the design of metallic mesh case enhances the heat dissipation of LRS-50 that the whole series operates from -30℃ through 70℃ under air convection without a fan. Delivering an extremely low no load power consumption (less than 0.2W), it allows the end system to easily meet the worldwide energy requirement. LRS-50 has the complete protection functions and 5G anti-vibration capability; it is complied with the international safety regulations such as TUV EN60950-1, EN60335-1, EN61558-1/-2-16, UL60950-1 and GB4943. LRS-50 series serves as a high price-to-performance power supply solution for various industrial applications.

**Model Encoding**

```
LRS - 50 - [3.3]
```

- **Output voltage**
- **Output wattage**
- **Series name**
## 50W Single Output Switching Power Supply

### LRS-50 series

### Specification

#### Input
- **Voltage Range**: 85 ~ 264VAC
- **Frequency Range**: 47 ~ 63Hz
- **Efficiency (Typ.)**: 80% ~ 90%
- **AC Current (Typ.)**: 0.95A/115VAC
- **Inrush Current (Typ.)**: COLD START 45A/230VAC
- **Leakage Current**
  - I/P-O/P: <0.75mA / 240VAC
  - I/P-FG: <0.5mA / 500VDC

#### Output
- **Voltage Adj. Range**: 2.97 ~ 3.6V
- **Voltage Tolerance**: ±3.0%
- **Line Regulation**
  - ±0.5%
  - ±1.0%
  - ±1.5%
- **Load Regulation**
  - ±2.0%
  - ±1.0%
  - ±0.5%
  - ±1.0%

#### Protection
- **Over Load**: 110 ~ 150% rated output power
- **Over Voltage**: 3.8 ~ 4.45V
- **Working Temp.**: -30 ~ 70°C (Refer to "Derating Curve")
- **Working Humidity**: 20 ~ 90% RH non-condensing
- **Temp. Coefficient**: ±0.03%/°C (0 ~ 50°C)
- **Vibration**: 10 ~ 500Hz, 5G 10min./cycle, 60min. each along X, Y, Z axes

#### Safety & EMC (Note 9)
- **Safety Standards**: UL60950-1, TUV EN60950-1, EN60335-1, EN61558-1
- **Withstand Voltage**: I/P-O/P: 3.75KVAC / I/P-FG: 2KVAC / O/P-FG: 1.25KVAC
- **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), GB9254 Class B, EN55014, 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**: 645K hrs min. / MIL-HDBK-217F (25°C)
- **Dimension**: 99*82*30mm (L*W*H)
- **Packing**: 0.23Kg; 60pcs/14.8Kg/0.88CUFT

#### Note
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. Line regulation is measured from low line to high line at rated load.
5. Load regulation is measured from 0% to 100% rated load.
6. Length of set up time is measured at cold start first. Turning ON/OFF the power supply very quickly may lead to increase of the set up time.
7. 3.3V,5V when the load factor 0~50%, the switching power less is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.
8. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m(6500ft).
9. The power supply is 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)
**Block Diagram**

- EMI FILTER
- RECTIFIERS & FILTER
- POWER SWITCHING
- RECTIFIERS & FILTER

- fosc: 115Vac: 75KHz
- 230Vac: 110KHz

**Derating Curve**

- **230VAC**
- 100VAC Input only
- 100VAC for 5V

**Static Characteristics**

- **AMBIENT TEMPERATURE (°C)**
- **INPUT VOLTAGE (VAC) 60Hz**

File Name: LRS-50 SPEC  2015-06-16
Mechanical Specification

Case No.239A  Unit:mm

Terminal Pin No. Assignment

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<thead>
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<th>Pin No.</th>
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<th>Pin No.</th>
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<td>AC/L</td>
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<td>DC OUTPUT -V</td>
</tr>
<tr>
<td>2</td>
<td>AC/N</td>
<td>5</td>
<td>DC OUTPUT +V</td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
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Installation Manual

Please refer to: http://www.meanwell.com/webnet/search/InstallationSearch.html
Mouser Electronics

Authorized Distributor

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