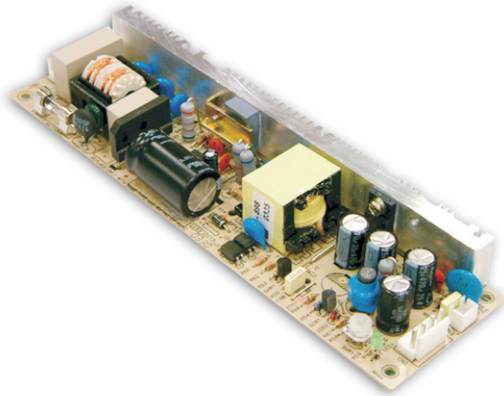


## 50W Single Output Switching Power Supply

## LPS-50 series



### ■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- Small and compact size
- Built-in remote ON-OFF control
- LED indicator for power on
- 100% full load burn-in test
- Low profile: 23mm thickness
- 2 years warranty

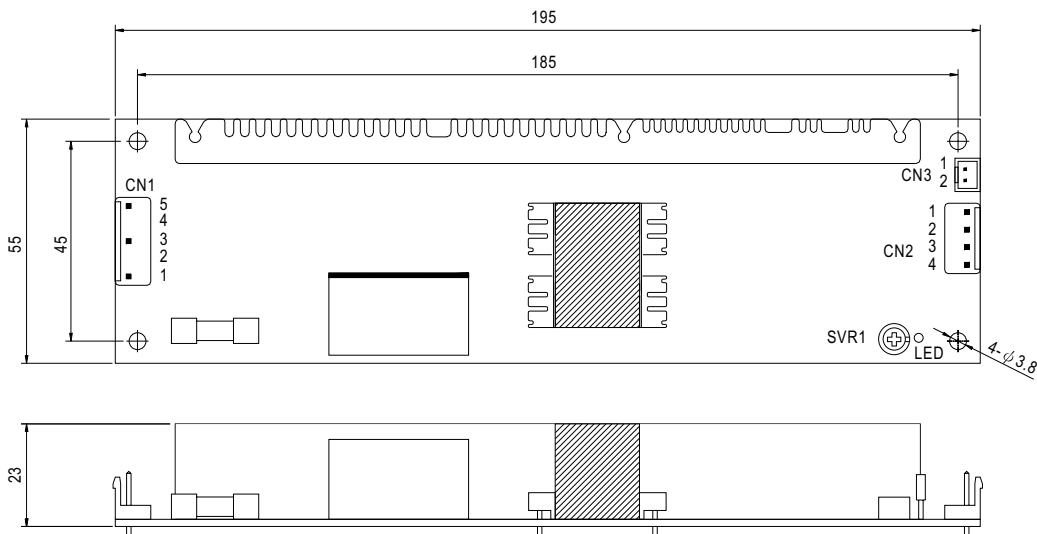


### SPECIFICATION

| MODEL                                |  | LPS-50-3.3  | LPS-50-5     | LPS-50-12    | LPS-50-15      | LPS-50-24    | LPS-50-48    |  |
|--------------------------------------|--|---|--------------|--------------|----------------|--------------|--------------|--|
| OUTPUT                               | DC VOLTAGE   | 3.3V  | 5V           | 12V          | 15V            | 24V          | 48V          |  |
|                                      | RATED CURRENT  | 10A   | 10A          | 4.2A         | 3.4A           | 2.1A         | 1.1A         |  |
|                                      | CURRENT RANGE  | 0 ~ 12A   | 0 ~ 12A      | 0 ~ 5A       | 0 ~ 4.1A       | 0 ~ 2.5A     | 0 ~ 1.3A     |  |
|                                      | RATED POWER  | 33W   | 50W          | 50.4W        | 51W            | 50.4W        | 52.8W        |  |
|                                      | PEAK LOAD(10sec.) <small>Note.4</small>  | 39.6W   | 60W          | 60W          | 61.5W          | 60W          | 62.4W        |  |
|                                      | RIPPLE & NOISE (max.) <small>Note.2</small>  | 50mVp-p   | 50mVp-p      | 80mVp-p      | 80mVp-p        | 80mVp-p      | 100mVp-p     |  |
|                                      | VOLTAGE ADJ. RANGE   | 3 ~ 3.6V  | 4.5 ~ 5.5V   | 10.8 ~ 13.2V | 13.5 ~ 16.5V   | 21.6 ~ 27.2V | 43.2 ~ 52.8V |  |
|                                      | VOLTAGE TOLERANCE <small>Note.3</small>  | ±3.0%   | ±3.0%        | ±2.0%        | ±2.0%          | ±1.0%        | ±1.0%        |  |
|                                      | LINE REGULATION  | ±1.0%   | ±1.0%        | ±1.0%        | ±1.0%          | ±1.0%        | ±1.0%        |  |
|                                      | LOAD REGULATION  | ±3.0%   | ±3.0%        | ±2.0%        | ±2.0%          | ±1.0%        | ±1.0%        |  |
|                                      | SETUP, RISE TIME   | 100ms, 40ms/230VAC    100ms, 40ms/115VAC at full load   |              |              |                |              |              |  |
| HOLD TIME (Typ.)                     | 70ms/230VAC    12ms/115VAC at full load  |   |              |              |                |              |              |  |
| INPUT                                | VOLTAGE RANGE  | 90 ~ 264VAC    127 ~ 370VDC   |              |              |                |              |              |  |
|                                      | FREQUENCY RANGE  | 47 ~ 63Hz   |              |              |                |              |              |  |
|                                      | EFFICIENCY(Typ.)   | 75%   | 81%          | 82%          | 84%            | 85%          | 86%          |  |
|                                      | AC CURRENT (Typ.)  | 115VAC  | 0.9A         | 1.2A         |                |              |              |  |
|                                      |  | 230VAC  | 0.6A         | 0.8A         |                |              |              |  |
|                                      | INRUSH CURRENT (Typ.)  | COLD START 18A/115VAC    35A/230VAC   |              |              |                |              |              |  |
| LEAKAGE CURRENT                      | <1mA / 240VAC  |   |              |              |                |              |              |  |
| PROTECTION                           | OVER LOAD  | 122 ~ 160% rated output power<br>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 | 57.6 ~ 67.2V |  |
|                                      |  | Protection type : Hiccup mode, recovers automatically after fault condition is removed                                  |              |              |                |              |              |  |
| FUNCTION                             | REMOTE ON/OFF  | RC+/RC- : 0 ~ 0.8V power on ; 4 ~ 10V power off   |              |              |                |              |              |  |
| ENVIRONMENT                          | WORKING TEMP.  | -20 ~ +70°C (Refer to output load derating curve)   |              |              |                |              |              |  |
|                                      | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing  |              |              |                |              |              |  |
|                                      | STORAGE TEMP., HUMIDITY  | -20 ~ +85°C, 10 ~ 95% RH  |              |              |                |              |              |  |
|                                      | TEMP. COEFFICIENT  | ±0.04%/°C (0 ~ 50°C)  |              |              |                |              |              |  |
|                                      | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes  |              |              |                |              |              |  |
| SAFETY & EMC <small>(Note 5)</small> | 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, EN61000-6-2 (EN50082-2) Heavy industry level, criteria A     |              |              |                |              |              |  |
| OTHERS                               | MTBF   | 341.7Khrs min.    MIL-HDBK-217F (25°C)  |              |              |                |              |              |  |
|                                      | DIMENSION  | 195*55*23mm (L*W*H)   |              |              |                |              |              |  |
|                                      | PACKING  | 0.24Kg; 48pcs/12.5Kg/0.84CUFT   |              |              |                |              |              |  |
| NOTE                                 | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.</p> <p>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.</p> |   |              |              |                |              |              |  |

**Mechanical Specification**

Unit:mm



AC Input Connector (CN1) : JST B5P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | AC/L       | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2,4     | No Pin     |                       |                                |
| 3       | AC/N       |                       |                                |
| 5       | FG $\perp$ |                       |                                |

DC Output Connector (CN2) : JST B4P-VH or equivalent

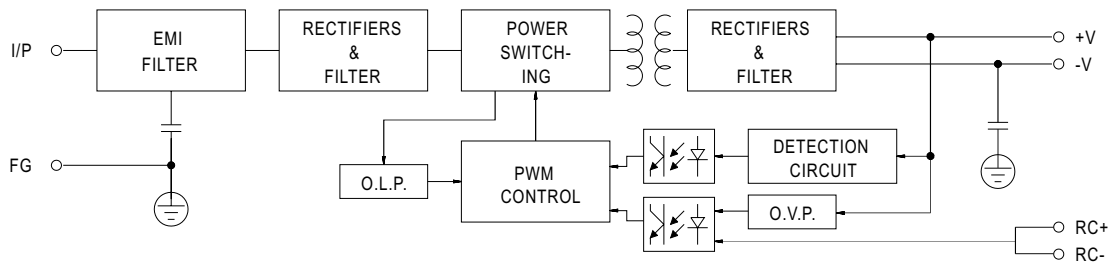
| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1,2     | -V         | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 3,4     | +V         |                       |                                |

Remote ON/OFF Connector(CN3):JST B2B-XH or equivalent

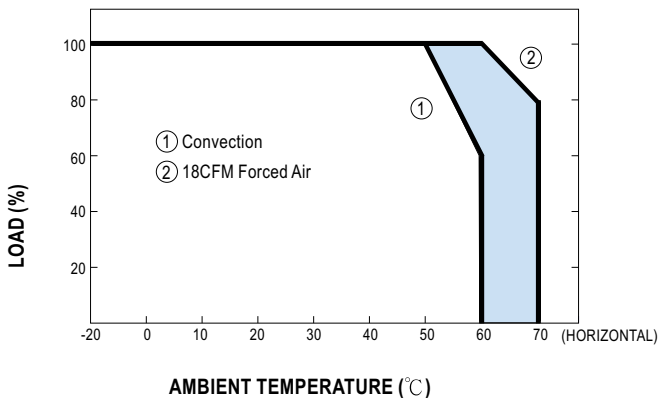
| Pin No. | Assignment | Mating Housing        | Terminal                        |
|---------|------------|-----------------------|---------------------------------|
| 1       | RC+        | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2       | RC-        |                       |                                 |

**Block Diagram**

fosc : 60KHz



**Derating Curve**



**Static Characteristics (15V)**

