

45W Single Output Switching Power Supply



■ Features :

- Universal AC input / Full range
- Optional L-Bracket and cover
- High efficiency up to 90%
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- 4"×2" compact size
- LED indicator for power on
- No load power consumption<0.3W
- 3 years warranty

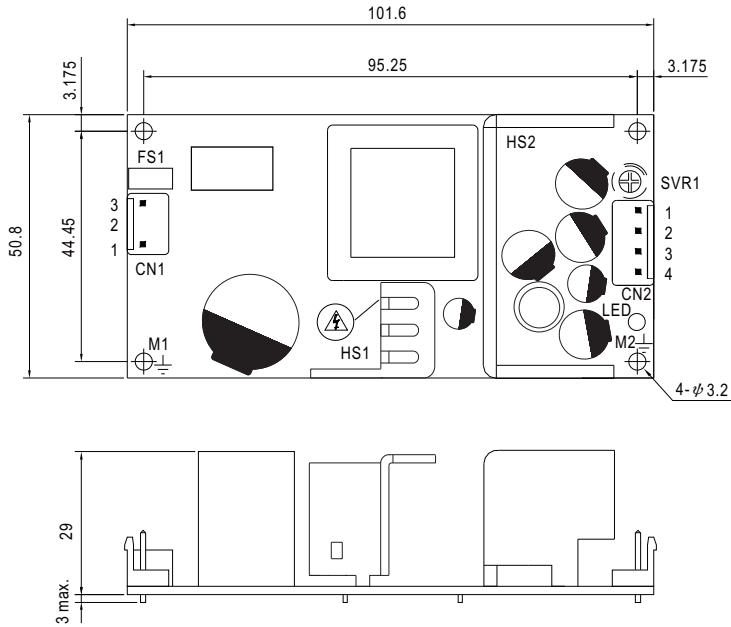


EPS-45-3.3  -C  =Blank, -C ; Blank=PCB only, -C=Enclosed type

**SPECIFICATION**

| MODEL                 | EPS-45-3.3 <input type="checkbox"/>                     | EPS-45-5 <input type="checkbox"/>   | EPS-45-7.5 <input type="checkbox"/> | EPS-45-12 <input type="checkbox"/> | EPS-45-15 <input type="checkbox"/> | EPS-45-24 <input type="checkbox"/> | EPS-45-36 <input type="checkbox"/> | EPS-45-48 <input type="checkbox"/> |              |  |
|-----------------------|---|---|-------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--------------|--|
| OUTPUT                | DC VOLTAGE  | 3.3V  | 5V                                  | 7.5V                               | 12V                                | 15V                                | 24V                                | 36V                                | 48V          |  |
|                       | RATED CURRENT   | 8A  | 8A                                  | 5.4A                               | 3.75A                              | 3A                                 | 1.9A                               | 1.25A                              | 1A           |  |
|                       | CURRENT RANGE   | 0 ~ 9A  | 0 ~ 9A                              | 0 ~ 6A                             | 0 ~ 4.2A                           | 0 ~ 3.3A                           | 0 ~ 2.1A                           | 0 ~ 1.4A                           | 0 ~ 1.1A     |  |
|                       | RATED POWER   | 26.4W   | 40W                                 | 40.5W                              | 45W                                | 45W                                | 45.6W                              | 45W                                | 48W          |  |
|                       | PEAK LOAD(10sec.) Note.6                                | 29.7W   | 45W                                 | 42W                                | 50.4W                              | 49.5W                              | 50.4W                              | 50.4W                              | 52.8W        |  |
|                       | RIPPLE & NOISE (max.) Note.2                            | 80mVp-p   | 80mVp-p                             | 100mVp-p                           | 120mVp-p                           | 150mVp-p                           | 240mVp-p                           | 280mVp-p                           | 300mVp-p     |  |
|                       | VOLTAGE ADJ. RANGE                                      | 3.1 ~ 3.6V  | 4.75 ~ 5.5V                         | 7.13 ~ 8.25V                       | 10.8 ~ 13.5V                       | 13.5 ~ 16.5V                       | 21.6 ~ 27V                         | 32.4 ~ 39.6V                       | 43.2 ~ 52.8V |  |
|                       | VOLTAGE TOLERANCE Note.3                                | ±3.0%   | ±2.0%                               | ±2.0%                              | ±2.0%                              | ±2.0%                              | ±1.0%                              | ±1.0%                              | ±1.0%        |  |
|                       | LINE REGULATION   | ±0.5%   | ±0.5%                               | ±0.5%                              | ±0.5%                              | ±0.5%                              | ±0.5%                              | ±0.5%                              | ±0.5%        |  |
|                       | LOAD REGULATION   | ±2.0%   | ±1.0%                               | ±1.0%                              | ±1.0%                              | ±1.0%                              | ±1.0%                              | ±1.0%                              | ±1.0%        |  |
| SETUP, RISE TIME      | 100ms, 50ms/230VAC      200ms, 50ms/115VAC at full load |   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| HOLD UP TIME (Typ.)   | 50ms/230VAC      16ms/115VAC at full load               |   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| INPUT                 | VOLTAGE RANGE Note.5                                    | 90 ~ 264VAC      127 ~ 370VDC      [DC input operation possible by connecting AC/N(+), AC/L(-)]   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | FREQUENCY RANGE   | 47 ~ 63Hz   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | EFFICIENCY (Typ.)                                       | 80%   | 82%                                 | 84%                                | 87%                                | 88%                                | 89%                                | 89%                                | 90%          |  |
|                       | AC CURRENT (Typ.)                                       | 1.8A/115VAC      1 A/230VAC   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | INRUSH CURRENT (Typ.)                                   | COLD START 60A/230VAC   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| LEAKAGE CURRENT       | <2mA/240VAC   |   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| PROTECTION            | OVER LOAD   | 115 ~ 160% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | OVER VOLTAGE  | 3.7 ~ 4.45V   | 5.6 ~ 6.75V                         | 8.63 ~ 10.1V                       | 13.8 ~ 16.2V                       | 17.25 ~ 20.25V                     | 27.6 ~ 32.4V                       | 39.7 ~ 46.8V                       | 53.3 ~ 64.8V |  |
| ENVIRONMENT           | WORKING TEMP.   | -30 ~ +70°C (Refer to output load derating curve)   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing  |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | STORAGE TEMP., HUMIDITY                                 | -40 ~ +85°C, 10 ~ 95% RH  |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | TEMP. COEFFICIENT                                       | ±0.03%/°C (0 ~ 50°C)  |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | VIBRATION   | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| SAFETY & EMC (Note 4) | 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   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| OTHERS                | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, heavy industry level, criteria A   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | MTBF  | 652.3Khrs min.    MIL-HDBK-217F (25°C)  |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | DIMENSION   | PCB:101.6*50.8*29mm (L*W*H) ; with optional CASE:103.4*62*37mm (L*W*H)  |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
| NOTE                  | PACKING   | PCB: 0.14Kg; 96pcs/ 14.5Kg/0.89CUFT ; with optional CASE: 0.3Kg; 45pcs/ 14.5Kg/0.67CUFT   |                                     |                                    |                                    |                                    |                                    |                                    |              |  |
|                       | NOTE  | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>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.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. 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.</li> <li>5. Derating may be needed under low input voltage. Please check the static characteristics for more details.</li> <li>6. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.</li> </ol> |                                     |                                    |                                    |                                    |                                    |                                    |              |  |

**Mechanical Specification**



- 1.HS1,HS2 cannot be shorted.
- 2.HS1 must have safety isolation distance with system case.

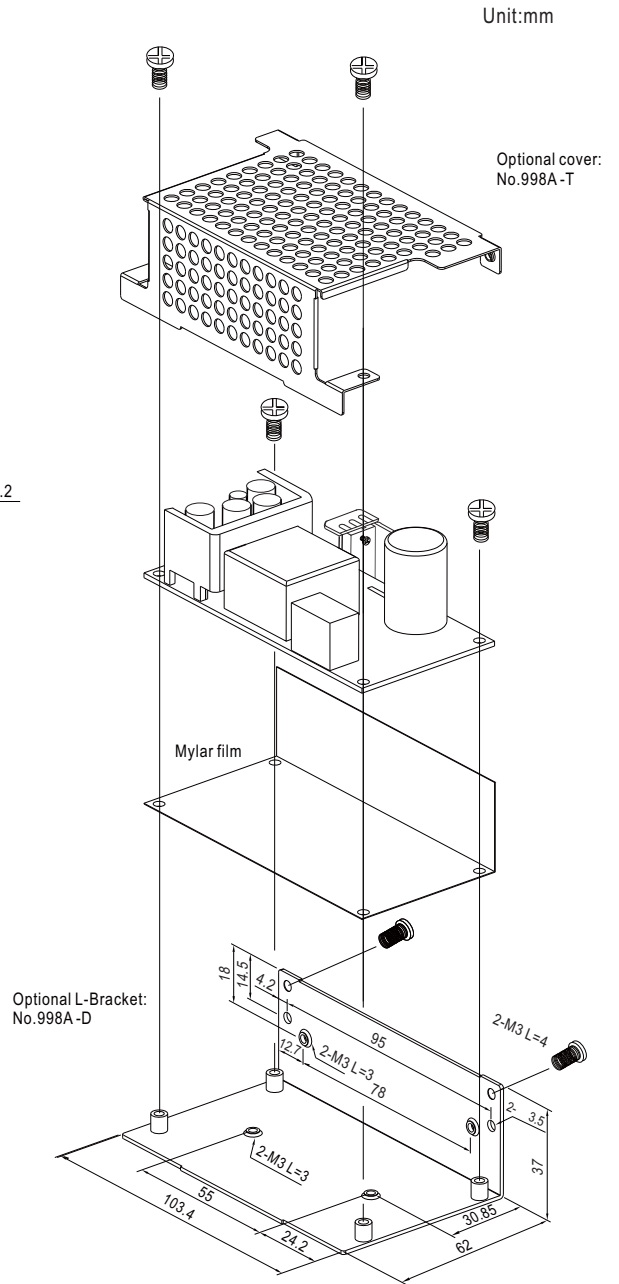
AC Input Connector (CN1) : JST B3P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | AC/N       | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2       | No Pin     |                       |                                |
| 3       | AC/L       |                       |                                |

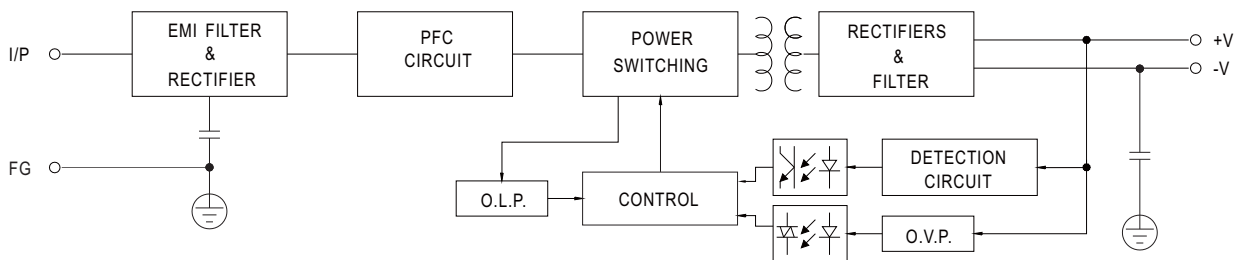
DC Output Connector (CN2) : JST B4P-VH or equivalent

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

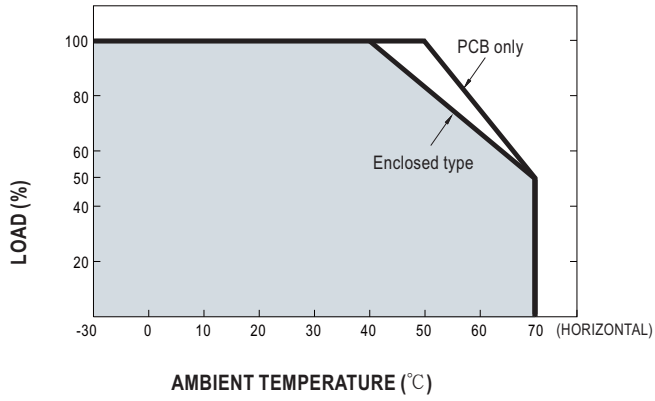
⊥ : Grounding Required ;M1 and M2 are Safety ground and should all be grounded.



**Block Diagram**



■ Output Derating



■ Static Characteristics

