

■ Features :

- Universal AC input / Full range
- Built in active PFC circuit compliance to EN61000-3-2
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Free air convection for 150W and forced air convection for 225W
- High power density 4.7w/in<sup>3</sup>
- Active AC surge current limiting
- U-bracket low profile:38mm
- 3 years warranty

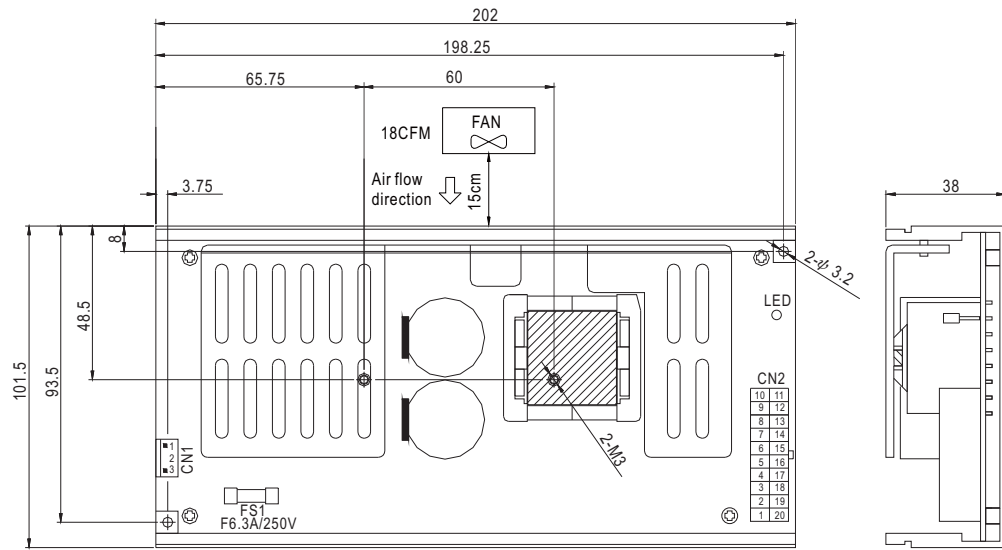


**SPECIFICATION**

| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | USP-225-3.3                                                                                                                           | USP-225-5                   | USP-225-12                       | USP-225-15   | USP-225-24   | USP-225-48   |  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------|--------------|--------------|--------------|--|
| OUTPUT                | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.3V                                                                                                                                  | 5V                          | 12V                              | 15V          | 24V          | 48V          |  |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 40A                                                                                                                                   | 40A                         | 18.7A                            | 15A          | 9.4A         | 4.7A         |  |
|                       | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0 ~ 40A                                                                                                                               | 0 ~ 40A                     | 0 ~ 18.7A                        | 0 ~ 15A      | 0 ~ 9.4A     | 0 ~ 4.7A     |  |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 132W                                                                                                                                  | 200W                        | 224.4W                           | 225W         | 225.6W       | 225.6W       |  |
|                       | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100mVp-p                                                                                                                              | 100mVp-p                    | 100mVp-p                         | 100mVp-p     | 150mVp-p     | 250mVp-p     |  |
|                       | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.97 ~ 3.6V                                                                                                                           | 4.5 ~ 5.5V                  | 10.8 ~ 13.2V                     | 13.5 ~ 16.5V | 21.6 ~ 26.4V | 43.2 ~ 52.8V |  |
|                       | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ±2.0%                                                                                                                                 | ±2.0%                       | ±2.0%                            | ±2.0%        | ±2.0%        | ±2.0%        |  |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±0.5%                                                                                                                                 | ±0.5%                       | ±0.5%                            | ±0.5%        | ±0.5%        | ±0.5%        |  |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±1.0%                                                                                                                                 | ±1.0%                       | ±1.0%                            | ±1.0%        | ±1.0%        | ±1.0%        |  |
|                       | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 500ms, 30ms/230VAC                                                                                                                    |                             | 1200ms, 30ms/115VAC at full load |              |              |              |  |
| HOLD UP TIME (Typ.)   | 22ms/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 22ms/115VAC at full load                                                                                                              |                             |                                  |              |              |              |  |
| INPUT                 | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 90 ~ 264VAC                                                                                                                           | 127 ~ 370VDC                |                                  |              |              |              |  |
|                       | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 47 ~ 63Hz                                                                                                                             |                             |                                  |              |              |              |  |
|                       | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PF>0.93/230VAC                                                                                                                        | PF>0.97/115VAC at full load |                                  |              |              |              |  |
|                       | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 72%                                                                                                                                   | 77%                         | 83%                              | 84%          | 85%          | 86%          |  |
|                       | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 115VAC                                                                                                                                | 2.2A                        | 3.3A                             |              |              |              |  |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 230VAC                                                                                                                                | 1.1A                        | 1.6A                             |              |              |              |  |
|                       | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 15A/115VAC                                                                                                                            | 35A/230VAC                  |                                  |              |              |              |  |
| LEAKAGE CURRENT       | <3.5mA / 240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                       |                             |                                  |              |              |              |  |
| PROTECTION            | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 105 ~ 150% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |                             |                                  |              |              |              |  |
|                       | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3.6 ~ 4.4V                                                                                                                            | 5.5 ~ 7.4V                  | 13.2 ~ 16.3V                     | 16.5 ~ 20.2V | 26.4 ~ 32.4V | 52.8 ~ 64.8V |  |
|                       | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Shut down o/p voltage, recovers automatically after temperature goes down                                                             |                             |                                  |              |              |              |  |
| ENVIRONMENT           | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -20 ~ +65°C (Refer to "Derating Curve")                                                                                               |                             |                                  |              |              |              |  |
|                       | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20 ~ 90% RH non-condensing                                                                                                            |                             |                                  |              |              |              |  |
|                       | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -40 ~ +85°C, 10 ~ 95% RH non-condensing                                                                                               |                             |                                  |              |              |              |  |
|                       | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ±0.03%/°C (0 ~ 50°C)                                                                                                                  |                             |                                  |              |              |              |  |
|                       | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                          |                             |                                  |              |              |              |  |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | UL60950-1, TUV EN60950-1, EAC TP TC 004 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 EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020                                                                |                             |                                  |              |              |              |  |
|                       | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compliance to EN61000-4-2,3,4,5,6,8,11, light industry level, criteria A, EAC TP TC 020                                               |                             |                                  |              |              |              |  |
| OTHERS                | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 220K hrs min. MIL-HDBK-217F (25°C)                                                                                                    |                             |                                  |              |              |              |  |
|                       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 202*101.5*38mm (L*W*H)                                                                                                                |                             |                                  |              |              |              |  |
|                       | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.85Kg; 16pcs/14.6Kg/0.76CUFT                                                                                                         |                             |                                  |              |              |              |  |
| 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. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. 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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> <li>5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol> |                                                                                                                                       |                             |                                  |              |              |              |  |

**Mechanical Specification**

Case No. 928 Unit:mm



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

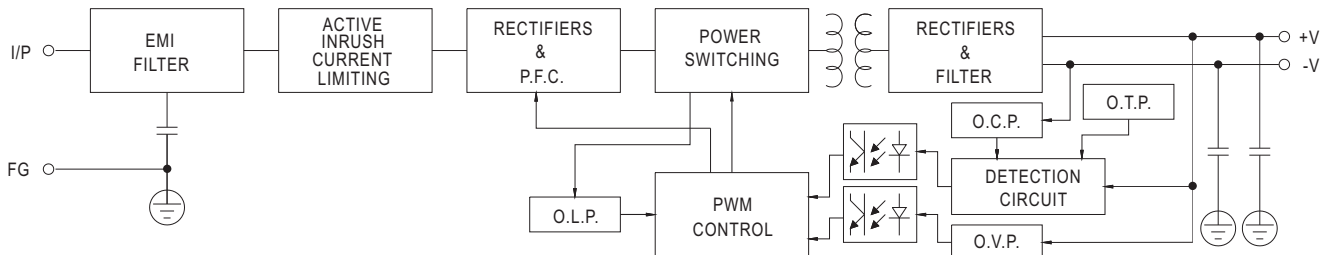
| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | AC/N       | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2       | No Pin     |                       |      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

DC Output Connector (CN2) : MOLEX 39-29-9206 or equivalent

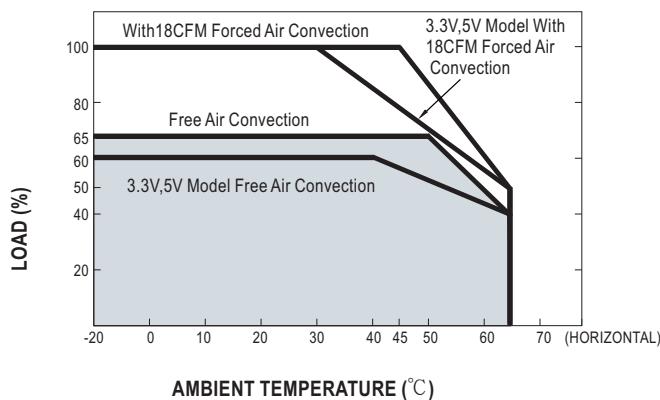
| Pin No. | Assignment | Mating Housing           | Terminal                 |
|---------|------------|--------------------------|--------------------------|
| 1~5     | +V         | MOLEX 5557 or equivalent | MOLEX 5556 or equivalent |
| 6~15    | -V         |                          |                          |
| 16~20   | +V         |                          |                          |

**Block Diagram**

fosc : 100KHz



**Derating Curve**



**Static Characteristics (5V)**

