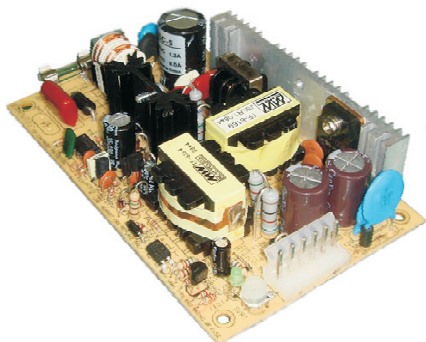




### 45W DC-DC Single Output Switching Power Supply

## PSD-45 series



#### ■ Features :

- 2:1 wide input range
- Protections: Short circuit/Over load /Over voltage/Polarity
- Cooling by free air convection
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- Fixed switching frequency at 96KHZ
- Low cost
- High reliability
- 2 year warranty

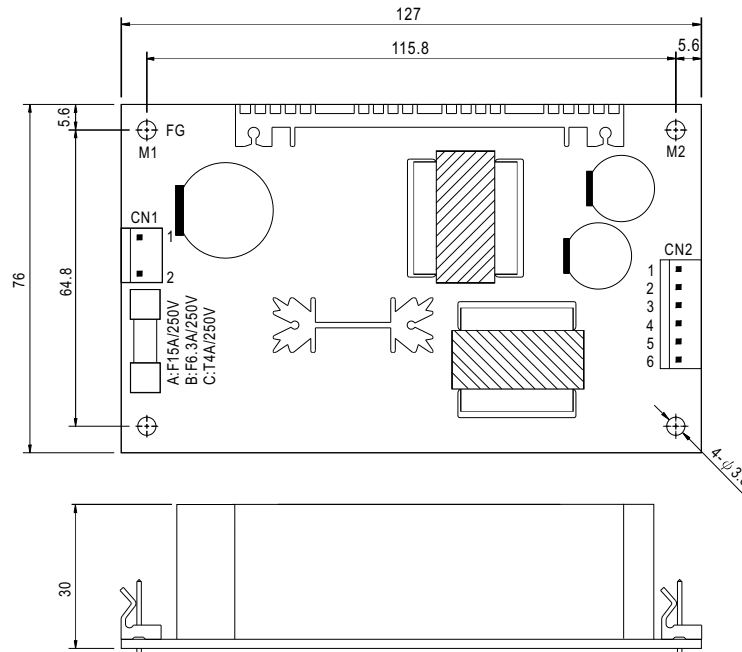
#### SPECIFICATION



| MODEL                     |                                                                                                                                                                                                                                                                                                                                            | PSD-45A-05                                                                                                         | PSD-45B-05 | PSD-45C-05 | PSD-45A-12          | PSD-45B-12 | PSD-45C-12 | PSD-45A-24           | PSD-45B-24 | PSD-45C-24 |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------|------------|---------------------|------------|------------|----------------------|------------|------------|
| OUTPUT                    | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                 | 5V                                                                                                                 | 5V         | 5V         | 12V                 | 12V        | 12V        | 24V                  | 24V        | 24V        |
|                           | RATED CURRENT                                                                                                                                                                                                                                                                                                                              | 6A                                                                                                                 | 9A         | 9A         | 2.5A                | 3.75A      | 3.75A      | 1.25A                | 1.875A     | 1.875A     |
|                           | CURRENT RANGE                                                                                                                                                                                                                                                                                                                              | 0 ~ 6A                                                                                                             | 0 ~ 9A     | 0 ~ 9A     | 0 ~ 2.5A            | 0 ~ 3.75A  | 0 ~ 3.75A  | 0 ~ 1.25A            | 0 ~ 1.875A | 0 ~ 1.875A |
|                           | RATED POWER                                                                                                                                                                                                                                                                                                                                | 30W                                                                                                                | 45W        | 45W        | 30W                 | 45W        | 45W        | 30W                  | 45W        | 45W        |
|                           | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                               | 100mVp-p                                                                                                           |            |            | 120mVp-p            |            |            | 150mVp-p             |            |            |
|                           | VOLTAGE ADJ RANGE                                                                                                                                                                                                                                                                                                                          | 4.5 ~ 5.5V                                                                                                         |            |            | 10.8 ~13.2V         |            |            | 21.6 ~ 26.4V         |            |            |
|                           | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                   | ± 2.0%                                                                                                             |            |            | ± 2.0%              |            |            | ± 2.0%               |            |            |
|                           | LINE REGULATION                                                                                                                                                                                                                                                                                                                            | ± 1.0%                                                                                                             |            |            | ± 1.0%              |            |            | ± 0.5%               |            |            |
|                           | LOAD REGULATION                                                                                                                                                                                                                                                                                                                            | ± 1.0%                                                                                                             |            |            | ± 1.0%              |            |            | ± 0.5%               |            |            |
| SETUP, RISE, HOLD UP TIME |                                                                                                                                                                                                                                                                                                                                            | 1000ms, 50ms, ----/12VDC/24VDC at full load; 1500ms,50ms,----48VDC at full load                                    |            |            |                     |            |            |                      |            |            |
| INPUT                     | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                              | A: 9.2 ~18VDC (12VDC) B:18 ~ 36VDC (24VDC) C:37~72VDC(48VDC)                                                       |            |            |                     |            |            |                      |            |            |
|                           | EFFICIENCY(Typ.)                                                                                                                                                                                                                                                                                                                           | 74%                                                                                                                | 77%        | 80%        | 79%                 | 82%        | 83%        | 80%                  | 85%        | 86%        |
|                           | DC CURRENT(Typ.)                                                                                                                                                                                                                                                                                                                           | 3.5A/12VDC 2.5A/24VDC 1.2A/48VDC                                                                                   |            |            |                     |            |            |                      |            |            |
| PROTECTION                | OVER LOAD                                                                                                                                                                                                                                                                                                                                  | 105% -160% rated output power<br>Protection type :shut down, Re-power on/10% load after fault condition is removed |            |            |                     |            |            |                      |            |            |
|                           | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                               | 5.75 ~ 6.75V/10%load                                                                                               |            |            | 13.8~ 16.2V/10%load |            |            | 27.6 ~ 32.4V/10%load |            |            |
|                           |                                                                                                                                                                                                                                                                                                                                            | Protection type : Hiccup mode, recovery automatically after fault condition is removed                             |            |            |                     |            |            |                      |            |            |
| ENVIRONMENT               | WORKING TEMP.                                                                                                                                                                                                                                                                                                                              | -10 ~ +60℃ (Refer to output load derating curve),20~90%RH non-condensing                                           |            |            |                     |            |            |                      |            |            |
|                           | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                           | 20 ~ 95% RH non-condensing                                                                                         |            |            |                     |            |            |                      |            |            |
|                           | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                    | -20 ~ +85℃, 10 ~ 95% RH                                                                                            |            |            |                     |            |            |                      |            |            |
|                           | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                          | ±0.05%/℃ (0 ~ 50℃)                                                                                                 |            |            |                     |            |            |                      |            |            |
|                           | VIBRATION                                                                                                                                                                                                                                                                                                                                  | 10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes                                             |            |            |                     |            |            |                      |            |            |
| SAFETY & EMC              | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                           | EN60950-1 CB approved by TUV                                                                                       |            |            |                     |            |            |                      |            |            |
|                           | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                          | I/P-O/P:1.5KVAC 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                                                                             |            |            |                     |            |            |                      |            |            |
|                           | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                               | Compliance to EN61000-4-2, 3, 4, 6, 8 EN55024, EN61000-6-1 Light industry level, criteria A                        |            |            |                     |            |            |                      |            |            |
| OTHERS                    | MTBF                                                                                                                                                                                                                                                                                                                                       | 329.3Khrs min. MIL-HDBK-217F (25℃)                                                                                 |            |            |                     |            |            |                      |            |            |
|                           | DIMENSION                                                                                                                                                                                                                                                                                                                                  | 127*76*30mm (L*W*H)                                                                                                |            |            |                     |            |            |                      |            |            |
|                           | PACKING                                                                                                                                                                                                                                                                                                                                    | 0.19Kg;72pcs/15.6Kg/1.35CUFT                                                                                       |            |            |                     |            |            |                      |            |            |
| NOTE                      | 1. All parameters NOT specially mentioned are measured at normal input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20 MHz of bandwidth by using a 12inch twisted pair-wire terminated with a 0.1uf & 47uf capacitor.<br>3. Tolerance: includes set up tolerance, line regulation and load regulation. |                                                                                                                    |            |            |                     |            |            |                      |            |            |

### Mechanical Specification

Unit:mm



AC Input Connector (CN1) : Molex 5277-02 or equivalent

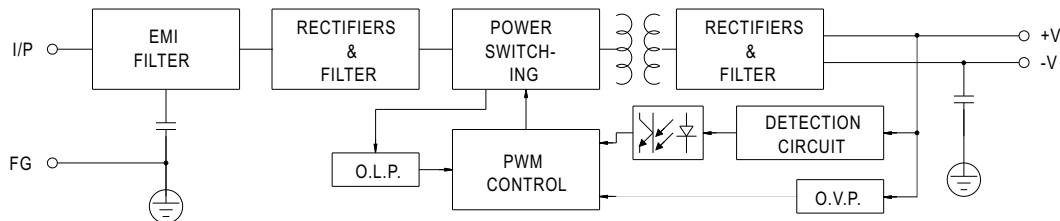
| Pin No. | Assignment | Mating Housing           | Terminal                 |
|---------|------------|--------------------------|--------------------------|
| 1       | Vin-       | Molex 5195 or equivalent | Molex 5194 or equivalent |
| 2       | Vin+       |                          |                          |

DC Output Connector (CN2) : Molex 5273-06 or equivalent

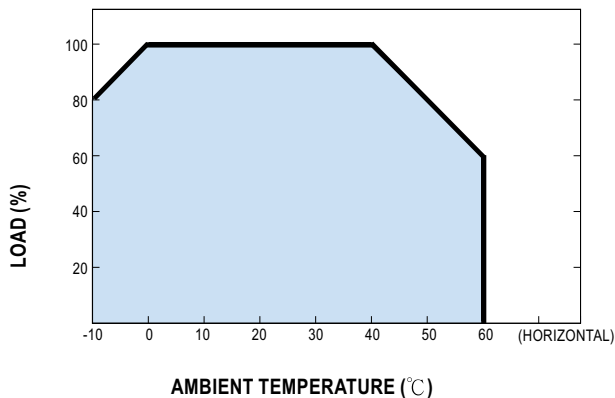
| Pin No. | Assignment | Mating Housing           | Terminal                 |
|---------|------------|--------------------------|--------------------------|
| 1,2,3   | +V         | Molex 5195 or equivalent | Molex 5194 or equivalent |
| 4,5,6   | -V         |                          |                          |

### Block Diagram

fosc :96KHz



### Output Derating



### Static Characteristics

