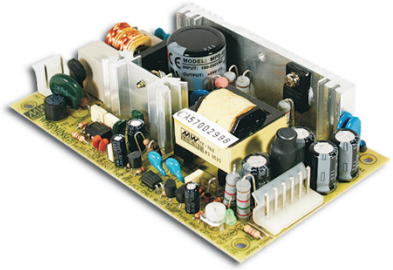
MEAN WELL

45W Single Output Medical Type

# MPS-45 series



■ Features :

- Universal AC input / Full range
- Low leakage current ≦0.3mA
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 45KHz
- 3 years warranty

## SPECIFICATION

| MODEL | | MPS-45-3.3 | MPS-45-5 | MPS-45-7.5 | MPS-45-12 | MPS-45-13.5 | MPS-45-15 | MPS-45-24 | MPS-45-27 | MPS-45-48 |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTPUT | DC VOLTAGE | 3.3V | 5V | 7.5V | 12V | 13.5V | 15V | 24V | 27V | 48V |
| | RATED CURRENT | 8A | 8A | 5.4A | 3.7A | 3.3A | 3A | 1.9A | 1.7A | 1A |
| | CURRENT RANGE | 0 ~ 10.7A | 0 ~ 10.5A | 0 ~ 7A | 0 ~ 4.4A | 0 ~ 3.9A | 0 ~ 3.5A | 0 ~ 2.2A | 0 ~ 1.95A | 0 ~ 1.1A |
| | RATED POWER | 26.4W | 40W | 40.5W | 44.4W | 44.6W | 45W | 45.6W | 45.9W | 48W |
| | OUTPUT POWER (max.) | 52W(+3.3V:35W)with 18CFM min. Forced air convection | | | | | | | | |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p |
| | VOLTAGE ADJ. RANGE | 2.97 ~ 3.63V | 4.5 ~ 5.5V | 6.75 ~ 8.25V | 10.8 ~ 13.2V | 12.2 ~ 14.85V | 13.5 ~ 16.5V | 21.6 ~ 26.4V | 24.3 ~ 29.7V | 43.2 ~ 52.8V |
| | VOLTAGE TOLERANCE Note.3 | ±3.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% |
| | LINE REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LOAD REGULATION | ±3.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% |
| | SETUP, RISE TIME | 800ms, 30ms/230VAC 1200ms, 30ms/115VAC at full load | | | | | | | | |
| | HOLD UP TIME (Typ.) | 50ms/230VAC 16ms/115VAC at full load | | | | | | | | |
| INPUT | VOLTAGE RANGE | 90 ~ 264VAC 127 ~ 370VDC | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 440Hz | | | | | | | | |
| | EFFICIENCY(Typ.) | 65% | 72% | 75% | 76% | 76% | 77% | 78% | 78% | 78% |
| | AC CURRENT (Typ.) | 1.2A/115VAC 0.7A/230VAC | | | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 15A/115VAC 30A/230VAC | | | | | | | | |
| | LEAKAGE CURRENT | <0.3mA / 264VAC | | | | | | | | |
| PROTECTION | OVERLOAD | 53 ~ 75W (3.3V:36 ~ 55W) rated output power | | | | | | | | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | |
| | OVER VOLTAGE | 3.8 ~ 4.46V | 5.75 ~ 6.75V | 8.63 ~ 10.1V | 13.8 ~ 16.2V | 15.5 ~ 18.2V | 17.25 ~ 20.25V | 27.6 ~ 32.4V | 31 ~ 36.45V | 55.2 ~ 64.8V |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -10 ~ +60℃ (Refer to output load derating curve) | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.04%/℃ (0 ~ 50℃) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | UL2601-1, TUV EN60601-1, IEC60601-1 approved | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:4KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG:100M Ohms/500VDC | | | | | | | | |
| | EMI CONDUCTION & RADIATION | Compliance to EN55011 (CISPR11) Class B | | | | | | | | |
| | HARMONIC CURRENT | Compliance to EN61000-3-2,-3 | | | | | | | | |
| | EMS IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN60601-1-2, medical level, criteria A | | | | | | | | |
| OTHERS | MTBF | 366.1Khrs min. MIL-HDBK-217F (25℃) | | | | | | | | |
| | DIMENSION | 127*76*28mm (L*W*H) | | | | | | | | |
| | PACKING | 0.18Kg; 72pcs/15.1Kg/1.35CUFT | | | | | | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>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.<br>5. Mounting holes M1 and M2 should be grounded for EMI purposes. | | | | | | | | | |

File Name:MPS-45-SPEC 2008-03-25

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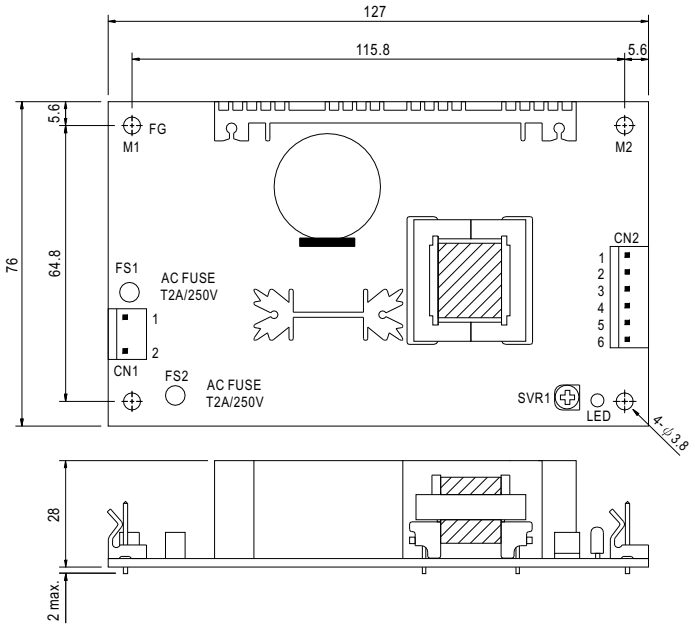
## ■ Mechanical Specification

Unit:mm




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

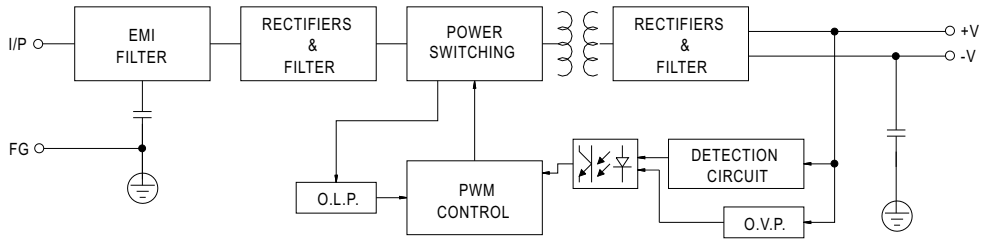
| Pin No. | Assignment | Mating Housing | Terminal |
|---|---|---|---|
| 1 | AC/N | Molex 5195 or equivalent | Molex 5194 or equivalent |
| 2 | AC/L | | |

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

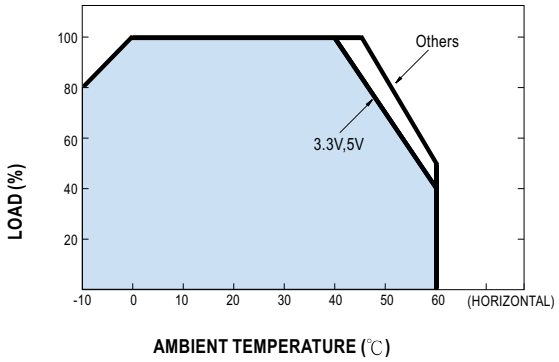
| Pin No. | Assignment | Mating Housing | Terminal |
|---|---|---|---|
| 1,2,3 | +V | Molex 5195 or equivalent | Molex 5194 or equivalent |
| 4,5,6 | -V | | |

## ■ Block Diagram

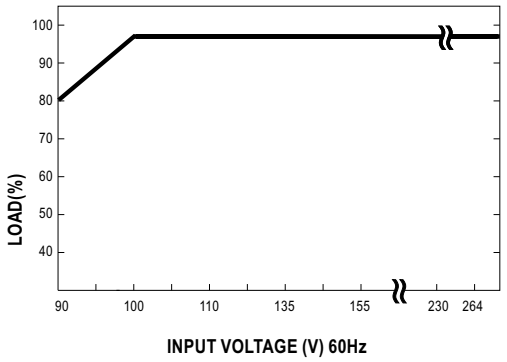
fosc : 45KHz




## ■ Derating Curve




## ■ Static Characteristics

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