

# MPT-45 Series



## Triple Output, Open Frame 45W EN60601 (Medical) Approved AC/DC Power Supplies

### Key Features:

- Universal AC Input - Full Range
- EN60601, UL2601 (Medical) Approved
- 45W Output Power
- Triple Outputs
- Low Leakage Current,  $\leq 0.3$  mA
- Fixed Switching Frequency (45 kHz)
- **LOW COST!**



### SPECIFICATION

MODEL	MPT-45A			MPT-45B			MPT-45C			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3
	DC VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V
	RATED CURRENT	3A	2A	0.3A	3A	2A	0.3A	3A	1.6A	0.3A
	CURRENT RANGE	0.4 ~ 5A	0.2 ~ 2.5A	0 ~ 0.5A	0.4 ~ 5A	0.2 ~ 2.5A	0 ~ 0.5A	0.4 ~ 5A	0.2 ~ 2.3A	0 ~ 0.5A
	RATED POWER	40.5W			42.6W			43.5W		
	OUTPUT POWER (max.)	52W with 18CFM min. Forced air convection								
	RIPPLE & NOISE (max.) Note.2	60mVp-p	120mVp-p	60mVp-p	60mVp-p	120mVp-p	100mVp-p	60mVp-p	120mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.5 ~ 5.5V								
	VOLTAGE TOLERANCE Note.3	±4.0%	±7.0%	±5.0%	±4.0%	±7.0%	±5.0%	±4.0%	±7.0%	±5.0%
	LINE REGULATION	±1.0%	±2.0%	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±2.0%	±1.0%
	LOAD REGULATION	±3.0%	±4.0%	±1.0%	±3.0%	±4.0%	±1.0%	±3.0%	±4.0%	±1.0%
SETUP, RISE TIME	800ms, 20ms/230VAC			800ms, 20ms/115VAC at full load						
HOLD TIME (Typ.)	80ms/230VAC			12ms/115VAC at full load						
INPUT	VOLTAGE RANGE	90 ~ 264VAC		127 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 440Hz								
	EFFICIENCY(Typ.)	73%			75%			75%		
	AC CURRENT (Typ.)	1.2A/115VAC		0.7A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC			40A/230VAC					
LEAKAGE CURRENT	<0.3mA / 264VAC									
PROTECTION	OVER LOAD	53 ~ 75W rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	5.75 ~ 6.75VDC on CH1 Protection type : Hiccup mode, recovers automatically after fault condition is removed								
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.04%/°C (0 ~ 50°C) on +5V output								
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, IEC601-1 Approved								
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC 1min.								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG:100M Ohms/500VDC								
	EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR 11) 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	271.5Khrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	127*76*28mm (L*W*H)								
	PACKING	0.21Kg; 72pcs/18Kg/1.35CUFT								
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. Mounting holes M1 and M2 should be grounded for EMI purposes.</li> </ol>									

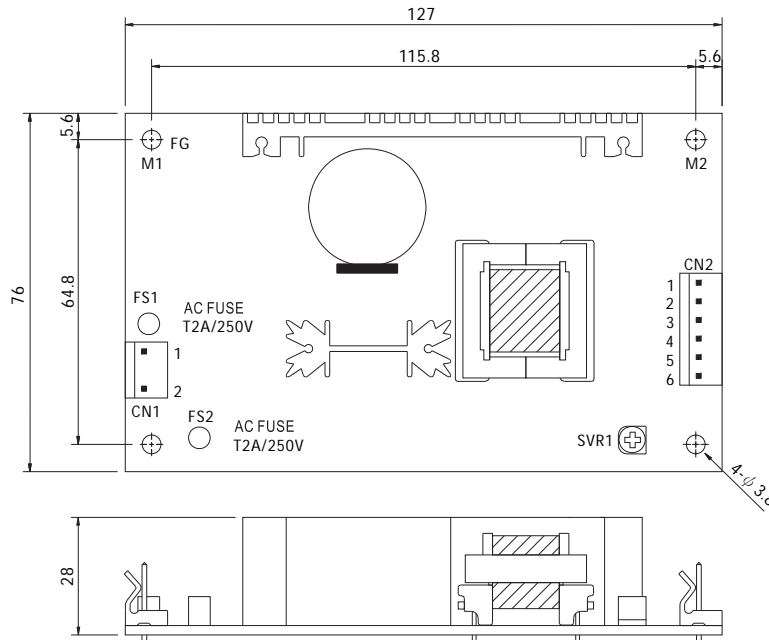


**MicroPower Direct**  
www.micropowerdirect.com



**Mechanical Specification**

Unit:mm



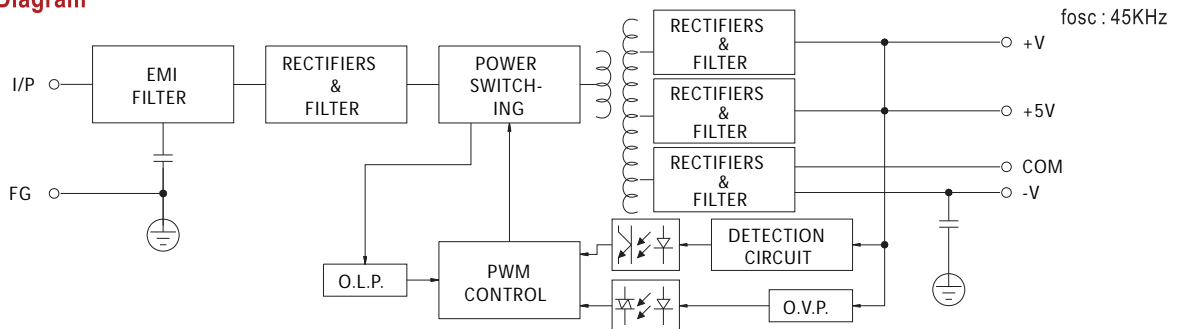
AC Input Connector (CN1) : Molex 5277-02 or equivalent

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

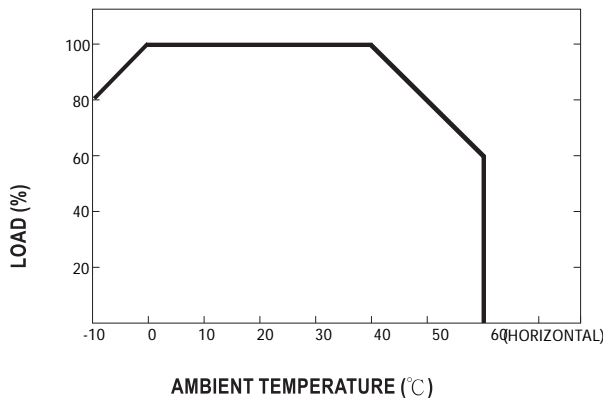
DC Output Connector (CN2) : Molex 5273-06 or equivalent

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

**Block Diagram**



**Output Derating**



**Static Characteristics**

