

■ Features :

- Universal AC input / Full range
- Low leakage current  $\leq 0.3\text{mA}$
- 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

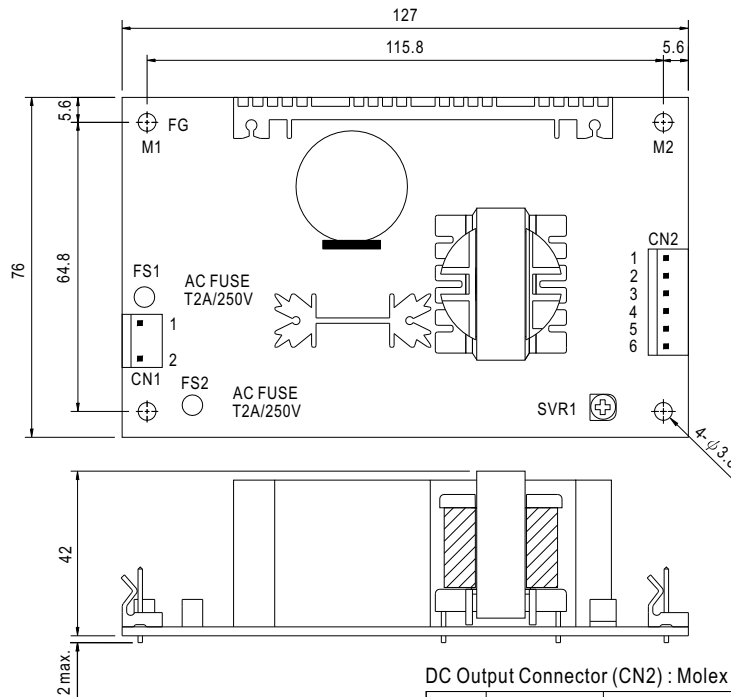


### SPECIFICATION

MODEL		MPD-65A		MPD-65B	
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2
	DC VOLTAGE	5V	12V	5V	24V
	RATED CURRENT	5.5A	2.8A	3.5A	2A
	CURRENT RANGE	0.4 ~ 7A	0.2 ~ 3.2A	0.4 ~ 6A	0.2 ~ 2.6A
	RATED POWER	61.1W		65.5W	
	OUTPUT POWER (max.)	72W with 18CFM min. Forced air convection			
	RIPPLE & NOISE (max.) Note.2	60mVp-p	150mVp-p	60mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1:4.5 ~ 5.5V		CH1:4.5 ~ 5.5V	
	VOLTAGE TOLERANCE Note.3	$\pm 4.0\%$	$\pm 7.0\%$	$\pm 4.0\%$	$\pm 7.0\%$
	LINE REGULATION	$\pm 1.0\%$	$\pm 2.0\%$	$\pm 1.0\%$	$\pm 2.0\%$
	LOAD REGULATION	$\pm 3.0\%$	$\pm 4.0\%$	$\pm 3.0\%$	$\pm 4.0\%$
	SETUP, RISE TIME	800ms, 20ms/230VAC		800ms, 20ms/115VAC at full load	
HOLD UP TIME (Typ.)	80ms/230VAC	12ms/115VAC at full load			
INPUT	VOLTAGE RANGE	90 ~ 264VAC	127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 440Hz			
	EFFICIENCY(Typ.)	75%		78%	
	AC CURRENT (Typ.)	1.6A/115VAC	1A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC	40A/230VAC		
LEAKAGE CURRENT	<0.3mA / 264VAC				
PROTECTION	OVERLOAD	73 ~ 105W 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 ~ +55°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	$\pm 0.04\%/^{\circ}\text{C}$ (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, 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	291.3Khrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	127*76*42mm (L*W*H)			
	PACKING	0.25Kg; 54pcs/16Kg/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>				

### Mechanical Specification

Unit:mm



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

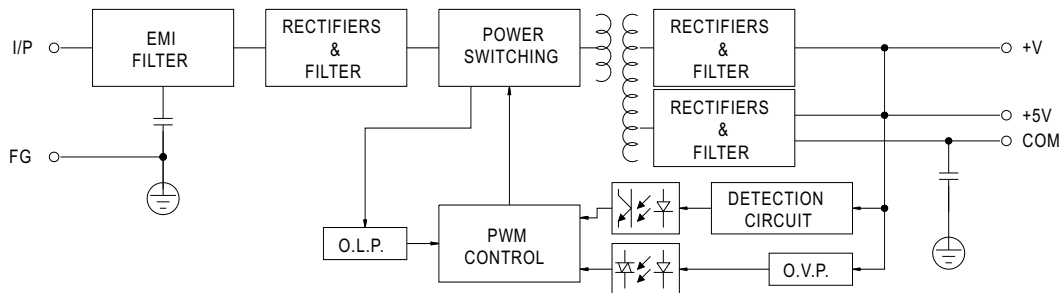
Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	Molex 5195 or equivalent	Molex 5194 or equivalent
2	AC/L		

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

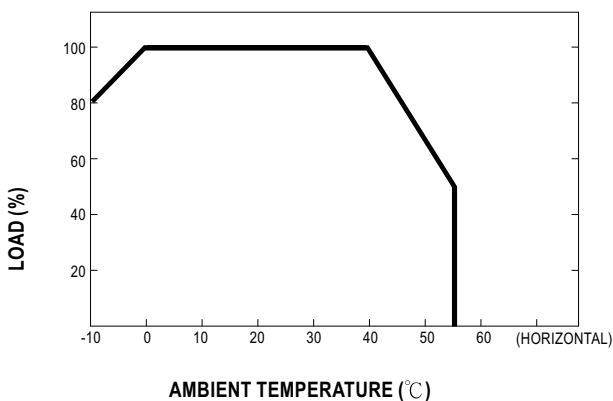
Pin No.	Assignment	Mating Housing	Terminal
1	+V	Molex 5195 or equivalent	Molex 5194 or equivalent
2,3	+5V		
4,5	COM		
6	NC		

### Block Diagram

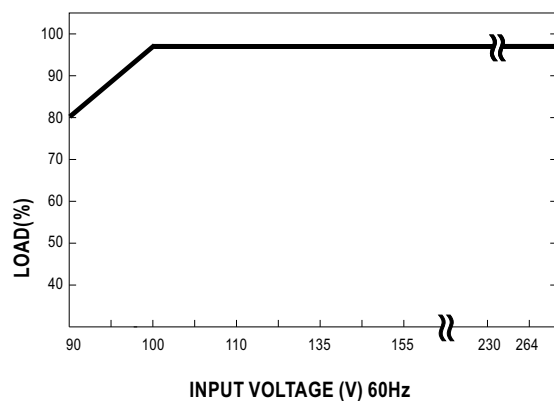
fosc : 45KHz



### Derating Curve



### Static Characteristics





NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																																
16	INSULATION RESISTANCE	SPEC: I/P.O/P: 500VDC/100MOhms MIN. I/P-FG: 500VDC/100MOhms MIN. O/P-FG: 500VDC/100MOhms MIN.	A: TEST OK B: TEST OK	P																																
17	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:25.7°C BURN-IN DURATION : 2.5 hrs	B:NON BREAK	P																																
18	ENVIRONMENT TEST	1.LOW TEMPERATURE TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:-10.1°C	AFTER 1hrs POWER ON OK	P																																
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:40.9°C	AFTER 3 hrs NON BREAK																																	
		3.High Humidity High Voltage On/Off Test I/P:267VAC O/P:FULL LOAD AMBIENT TEMPERATURE:25°C AMBIENT HUMIDITY:95%	AFTER 15 hrs POWER ON NON BREAK																																	
19	TEMPERATURE RISE TEST Trise OF PARTS	A: I/P :230VAC O/P :FULL LOAD AFTER 3 hr BURN-IN TA:30°C	<table border="1"> <thead> <tr> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>Trise</th> </tr> </thead> <tbody> <tr> <td>BD1</td> <td>BRIDGE DIODE</td> <td>76.7°C</td> <td>46.7°C</td> </tr> <tr> <td>Q1</td> <td>MAIN TRANSISTOR</td> <td>83.5°C</td> <td>53.5°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER WIRE</td> <td>91.9°C</td> <td>61.9°C</td> </tr> <tr> <td>D50</td> <td>O/P DIODE</td> <td>92.3°C</td> <td>62.3°C</td> </tr> <tr> <td>C51</td> <td>O/P FILTER CAPACITOR</td> <td>78.2°C</td> <td>48.2°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>84.0°C</td> <td>54.0°C</td> </tr> <tr> <td>LF1</td> <td>I/P FILTER TRANSFORMER</td> <td>67.8°C</td> <td>57.8°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	Trise	BD1	BRIDGE DIODE	76.7°C	46.7°C	Q1	MAIN TRANSISTOR	83.5°C	53.5°C	T1	MAIN TRANSFORMER WIRE	91.9°C	61.9°C	D50	O/P DIODE	92.3°C	62.3°C	C51	O/P FILTER CAPACITOR	78.2°C	48.2°C	C5	I/P FILTER CAPACITOR	84.0°C	54.0°C	LF1	I/P FILTER TRANSFORMER	67.8°C	57.8°C	P
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20	CRITICAL COMPONENT RECORD ( FOR QC INSPECTION REFERENCE ONLY )	B: FUSE :2A/250V BRIDGE DIODE :D3SB60 LINE FILTER :TF0484 TRANSFOMER TF-791 POWER SWITCHER :SPP07N60C2 OUTPUT DIODE :BYQ28X-200 OUTPUT CAPACITOR :1200uF/16V 105° LL3K INPUT CAPACITOR :HITACHI 150uF/400V 85°C P.C.B :MPT-65-R3																																		
21	LIFE CYCLE	B: SUPPOSE C23 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc23:74.5°C Life: 49314hrs I/P:230VAC O/P:FULL LOAD Ta:45°C Tc23:95.2°C Life: 11744hrs		P																																
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																																
20011110	RD SAMPLE MPD-65A MPD-65B	PASS	VINCENT	MAX LIN																																
20011210	PRODUCT A109C24C MPD-65A MPD-65B	PASS	VINCENT	MAX LIN																																
20020919	PRODUCT A208A10 MPD-65B	PASS	VINCENT	MAX LIN																																
20021206	PRODUCT A209A10A MPD-65A	PASS	VINCENT	MAX LIN																																