



# SPECIFICATION

For

SWITCHING POWER SUPPLY

**M/N: MPD-F06B**

## Revision Index

REV.	May 23 <sup>rd</sup> 2008	
REV.	Mar. 12 <sup>th</sup> 2009	Update mechanical drawing
REV.	Mar. 28 <sup>th</sup> 2011	Updated safety approvals status.



### FEATURES

- 60W convection cooled DC/DC converter
- Wide input range 10-36VDC
- Compact size 2 x 4 inch
- Class II, double isolation construction

### 1. Description

The MPD-F06B is a Class II 60 Watts triple outputs DC/DC power supply with 2 x 4 inch compact size and input from 10-36VDC wide range.

Output Voltage	Min. Output Current	Rated Output Current	Peak output Current <sup>(Note 1)</sup>	Line Regulation	Load Regulation	Ripple & Noise p-p <sup>(Note 2)</sup>	Initial Setting Accuracy <sup>(Note 3)</sup>
+5V	0A	8A	12A	±2%	±3%	100mV	5.00V to 5.10V
+12V	0A	1.5A	3A	±2%	±5%	120mV	11.20V to 13.00V
-12V	0A	0.2A		±2%	±5%	120mV	-10.80V to -13.00V

**Total Output Power:** 60W at 50°C environment temperature <sup>(Note 4)</sup>.

Note: 1) The peak load could not exceed for 5 sec.

2) Measured by a 20MHz bandwidth limited oscilloscope and the each output is connected with a 0.47µF electrolytic capacitor at rated load, nominal line.

3) At factory, all outputs in 60% rated load. The +5V output is set to between 5.00V and 5.10V, and the other outputs are checked to be within the specified voltage accuracy range.

4) The total DC continuous power shall be kept with 60W at input voltage at 22-36VDC. With input voltage 12-21VDC the total dc continuous power shall be kept with 54W max.; with input voltage 10-11.9V, the total dc continuous power shall be kept with 48W.

### 2. Input Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input Voltage	Continuous input range.	10	12/24	36	VDC
Input Current	DC Input Voltage 10VDC, rated load.			13	A
Inrush Current	Nominal DC Input Voltage (12VDC), cold start at 25°C, with exclusion of EMI capacitors.			25	A

### 3. Output Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Efficiency	Rated load, 24VDC.		80		%
Minimum load			See Chart of Description		
Ripple & Noise	Rated load, 20MHz bandwidth		See Chart of Description		
Output Power	Continuous output power.		See Chart of Description		
Line Regulation	Less than ±2% at rated load with ±10% changing in input voltage +12V and +24V.		See Chart of Description		
Load Regulation	Measured from 60% to 100% rated load and from 60% to 20% rated load (60% ±40% rated load) for each output, and others voltage setting at 60%.		See Chart of Description		

### 4. Interface Signals and Internal Protection

Parameter	Conditions/Description
Short Circuit or Over Load Protection	The power supply will go into hiccup mode against short circuit or over load conditions, and will auto-recovery while fault conditions moved.
Over Voltage Protection	For some reason the power supply fails to control itself, the build-in over voltage protection circuit will shut down the outputs to prevent damaging external circuits. The trigger point is about 5.7-7.0V at +5V. If the OVP occur, PSU cannot be recovered.



### 5. Safety Approvals, EMI and EMS Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Approvals	IEC 60950-1: 2005+A1: 2009, 2 <sup>nd</sup>	CE (LVD) approved			
	EN 60950-1: 2006+A1: 2010				
	UL 60950-1, 2 <sup>nd</sup> Edition, 2007-03-27				
	CSA C22.2 No.60950-1-07, 2 <sup>nd</sup> Edition, 2007-03	Design to meet			
Radiation	EN 55022 / CISPR 22 & FCC Part 15	B			Class
Conduction	EN 55022 / CISPR 22 & FCC Part 15 (with option EMI filter module)	B			
EMS	IEC 61000-4-2, 8KV air discharge and 6KV contact discharge	3			Level
	IEC 61000-4-3, 3V/M	3			
	IEC 61000-4-4, 2KV	2			
	IEC 61000-4-5, Line to Line 0.5KV	1			

### 6. Environment Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Operating Temperature	See Chart of Description Note 4	0		+50	°C
Storage Temperature		-20		+75	°C
Relative Humidity	Non-condensing.	10		90	%RH
Altitude	Operating			10K	Feet

### 7. Mechanical Specification

Parameter	Conditions/Description
Dimension	101.6 (L) x 50.8 (W) x 36 (H) mm, tolerance +/- 0.5mm.
Connector	TB1 --- DC input: 2 Positions Terminal blocks. TB2 --- DC output: Molex 5273-08A or equivalent.
Pin Assignment	TB1 Pin 1. + 2. -
	TB2 Pin 1. +5V 4. GND 7. +12V
	2. +5V 5. GND 8. -12V
	3. +5V 6. GND

#### Dimension

