



SPECIFICATION

For

SWITCHING POWER SUPPLY

M/N: MPD-810H



Revision Index

REV.	Jan. 31 st 2008	Adding derating curve at 5.1.
REV.	Jul. 26 th 2010	Updating minimum load of +5V is 0.5A.
REV.	Mar. 28 th 2011	Updated the safety approvals status.
REV.	Jun. 21 st 2012	Revised -12V load regulation.



1.0 INTRODUCTIONS

MPD-810H is 120 watts with forced air cooling, 85 watts with convection cooling, 10-30 VDC input, five outputs switching power supply, it is designed for use in General Purpose.

2.0 INPUT SPECIFICATIONS

2.1 Input Voltage

The range of input voltage is from 10 to 30VDC, nominal input voltage is 12 and 24VDC.

2.2 Input current

The maximum input current is 18A at 10VDC input.

2.3 Inrush current

The inrush current is less than 30A at 10VDC input.

3.0 OUTPUT SPECIFICATIONS

3.1 Load range

Output voltage	Min. load	Rated load	Max. load	Voltage accuracy
+5V	0.5A	8A	10A	4.95V to 5.15V
+12V	0A	1.5A	4A	11.25V to 12.75V
-12V	0A	0.5A	1A	-11.75V to -13.1V
+3.3V	0A	5A	8A	3.0V to 3.50V
+5Vsb	0A	0.75A		4.80V to 5.20V

At the factory, the +5V output is set between 5.08V to 5.13V and all output at 60% rated load; the other outputs are checked to be within the accuracy range. The maximum total combined output power on the +3.3V and +5V rails is 70W. The maximum load cannot exceed 120W.

3.2 Ripple and noise

The peak to peak ripple and noise for +5V, +3.3V output are less than 100mV for +5Vsb is 120mV, for +12V is less than 120mV, for -12V is less than 200mV at rated load and nominal input, which is measured by a 20MHz bandwidth limited oscilloscope and the each output is connected with a 0.47 μ F capacitor.

3.3 Line regulation

The line regulation is less than $\pm 2.5\%$ at rated load with $\pm 10\%$ change in input voltage.

3.4 Load regulation

The load regulation for +5V is less than $\pm 2\%$, for +12V is less than $\pm 5\%$, for -12V $\pm 6\%$, + 3.3V is less than $\pm 5\%$ while the measuring is done by changing the measured output loading $\pm 40\%$ from 60% rated load, and keep other output is at 60% rated load.

4.0 GENERAL FEATURES

4.1 Efficiency

The efficiency is higher than 70% while measuring at nominal line and rated load.



4.2 Short Circuit Protection

Output short circuit is defined to be a short circuit load of less than 0.1 ohm. The power supply will generate the hiccup mode to protect itself, and shall return to normal after the short circuit has been removed.

4.3 Over Load Protection

The power supply will generate the hiccup mode while output loading over 110% to 150% of maximum wattage to protect itself, and shall return to normal after the over load condition has been removed.

4.4 Power On/Off

The power supply will start-up when the power On/Off pin be connected to secondary GND.

4.5 Power good signal

The power is turned on, the power good signal will go high between 100ms to 500ms after all output DC voltage are within regulation limits.

4.6 Power fail signal

The power fail signal will go low at least 1ms before any of the output voltages fall below the regulation limits.

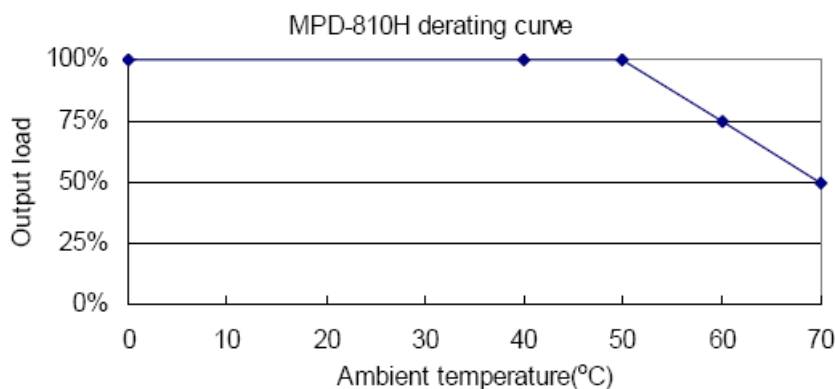
5.0 ENVIRONMENT SPECIFICATIONS

5.1 Operating temperature

0°C to 50°C (Derate linearly above 50°C by 2.5% per °C to a maximum temperature of 70°C)

Input: 12VDC

Output: +5V/8A, +12V/1.5A, -12V/0.08A, +3.3V/5A



5.2 Storage temperature

-40°C to +70°C

5.3 Altitude

Will operate properly at any altitude between 0 to 10000ft.

5.4 Humidity

10% to 90% Non-Condensing.



6.0 INTERNATIONAL STANDARDS

6.1 Safety standards

Designed to meet the following standards

UL 60950-1 First Edition	UL approved
CAN/CSA C22.2 No.60950-1	cUL approved

6.2 EMI standards

Designed to meet the following limits:

FCC docket 20780 curve "B"

EN 55022 (Radiation Class B)

6.3 CE standards

Designed to meet the following standards:

IEC 61000-4-2	Level 3	8KV air discharge
IEC 61000-4-3	Level 3	3V/M
IEC 61000-4-4	Level 3	2KV

7.0 MECHANICAL SPECIFICATION

7.1 Dimensions

Dimensions are shown in mm as above. Tolerance specified is ±0.4mm.

7.2 Connectors

- CN1—DC input : Dinkle DT-35-B01W-03 or equivalent.
- CN2—DC output : Molex 5273-14A or equivalent.
- CN3—DC output : Molex 5045-03A or equivalent.
- CN4—Power Good output : Molex 5045-02A or equivalent.
- CN5—Fan output : Molex 5045-02A or equivalent

7.3 DC output pin assignment

CN2	Pin	1.	+5V	6.	GND	11.	+3.3V
		2.	+5V	7.	GND	12.	+3.3V
		3.	+5V	8.	GND	13.	+3.3V
		4.	GND	9.	+12V	14.	-12V
		5.	GND	10.	+12V		

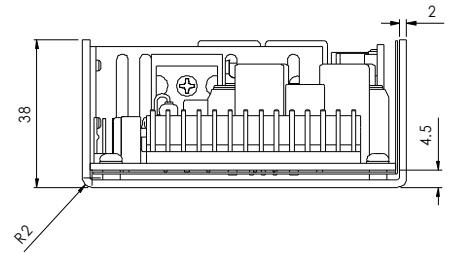
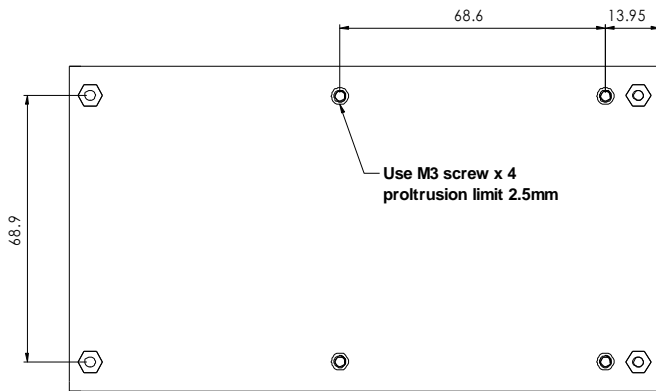
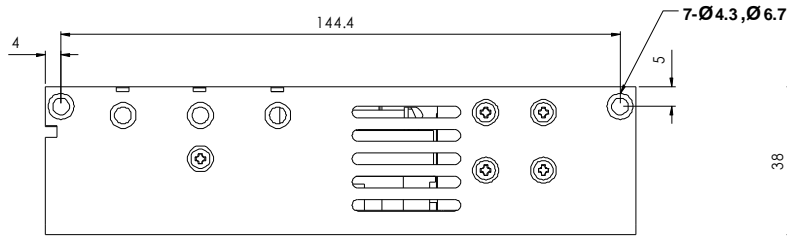
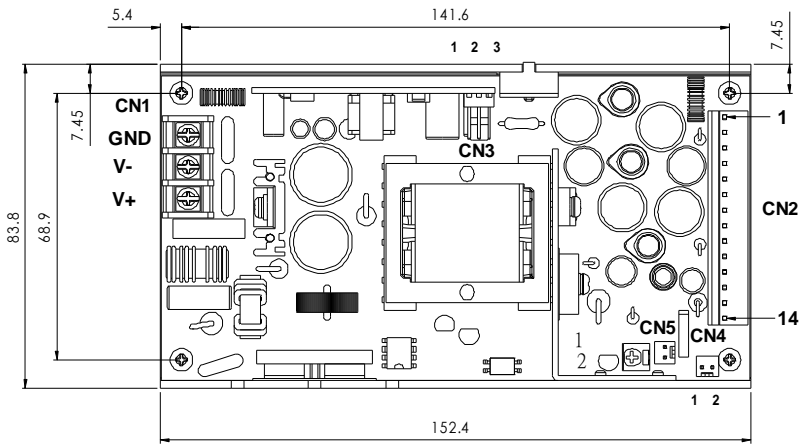
CN3	Pin	1.	Power ON/OFF
		2.	GND
		3.	+5Vsb

CN4	Pin	1.	GND	2.	Power Good
-----	-----	----	-----	----	------------

CN5	Pin	1.	GND	2.	+12V (for fan)
-----	-----	----	-----	----	----------------



◆ Mechanical Drawing



measuring the screw protrusion first:

