

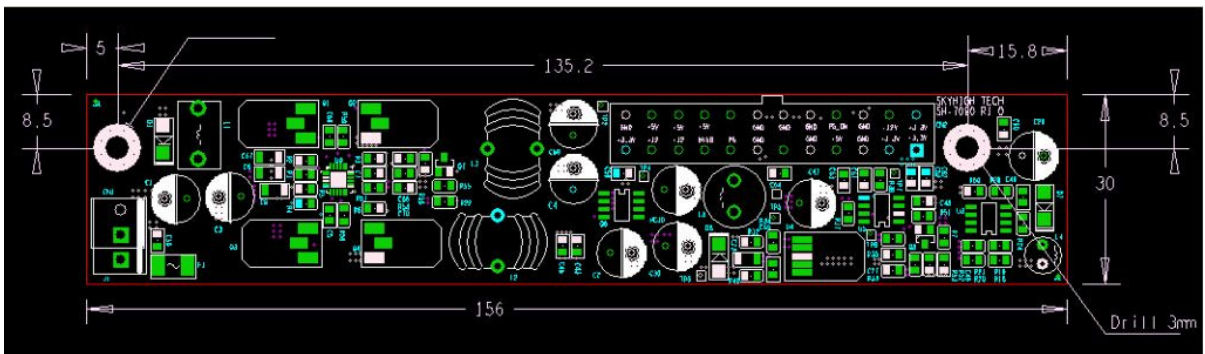
Compact and silent power solution for mini ITX

SH-7090

Specification

DC to DC Converter

Rev. 1.0



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Scope

This specification defines the physical, functional and electrical characteristics of 108 watts with 5 outputs DC-DC switching power supply that supports **mini ITX mainboard**. Vin is supposed to be AC adaptor with **single 12VDC output**. Testing whole system **in advance for compatibility** is required.

2.0 INPUT CHARACTERISTICS

2.1 Input Voltage

11.4~13.0 VDC

2.2 Input Current

Typical 8.3A, 10A maximum

2.3 Maximal Inrush current

45 A @ 12V (at 25oC ambient cold start).

3.0 OUTPUT CHARACTERISTICS

3.1 DC Output Characteristics

Output Voltage	V1 +5V	V2 +3.3V	V3 +12V	V4 -12V	V5 +5Vsb
Rated Load	6.5A	8.0A	3.2A	0.1A	2.0A
Peak load	10A	10A	5.5A	0.5A	2.5A
Rated output power	32.5W	26.4W	38.4W	1.2W	10.0W
Over All Reg. %	+/-5%	+/-5%	Switched power	+/-5%	+/-5%
Ripple & Noise	50mVpp	50mVpp	Note 1	120mVpp	50mVpp

Note 1. Regulation Condition

Regulation, ripple & noise of 12Vout are decided by switched power.

Note: 2. The maximum allowed ripple/noise output of the power supply is measured over a bandwidth of 0Hz to 20 MHz at the power supply output connectors. A 10uF electrolytic capacitor in parallel with a 0.1uF ceramic capacitor are placed at the point of measurement.

5.0 TIMING

5.1 SIGNAL TIMING DRAWING

The figure 1 represents the timing characteristics of the power good signal. The timing relationship is shown as below:

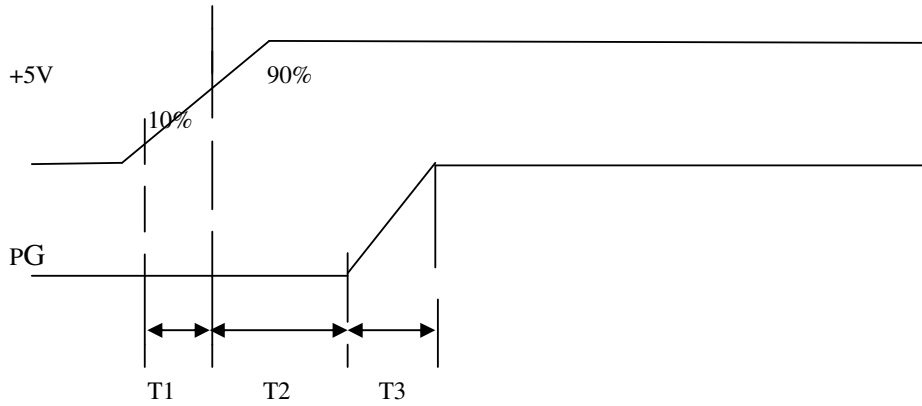


Figure 1.

$$2\text{mS} \leq T_1 \leq 20\text{mS}$$

$$100\text{mS} \leq T_2 \leq 500\text{mS}$$

$$T_3 \leq 10\text{mS}$$

6.0 PHYSICAL CHARACTERISTICS

6.1 Size : 30W*156L*18H mm

6.2 weight : 53g

7.0 Output DC Connectors

7.1 DC INPUT CONNECTOR

Connector : DC input (CN1)

Pin	Signal
1	+12V
2	GND

7.2 DC OUTPUT CONNECTOR

Connector : DC output (CN2)

Pin	Signal	Pin	Signal
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	+PG	20	-
9	+5Vsb	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

8.0 Environmental requirement:**8.1 Temperature****8.1.1 Operating :** -10°C to 50°C.**8.1.2 None – Operating :** -20°C to 70°C**8.2 Relative Humidity****8.2.1 Operating :** To 85 % relative humidity (non-condensing)**8.2.2 Non-Operating :** To 95 % relative humidity (non-condensing)**9.0 MTBF**

100,000 hours at 25°C.