MFI-itx150 power DC-DC converter Specification

This specification defines the physical, functional and electrical characteristics of 150 watts with 5 outputs DC (ATX) converter that supports Mini ITX mainboard. DC Power with 16VDC~24VDC inpurt can be integrated with this DC converter.

1.0 INPUT CHARACTERISTICS

1.1 Input Voltage **16VDC~24VDC**

1.2 Input Current **9A**

2.0 OUTPUT CHARACTERISTICS

2.1 DC Output Characteristics

MFI-itx150 power(150W)

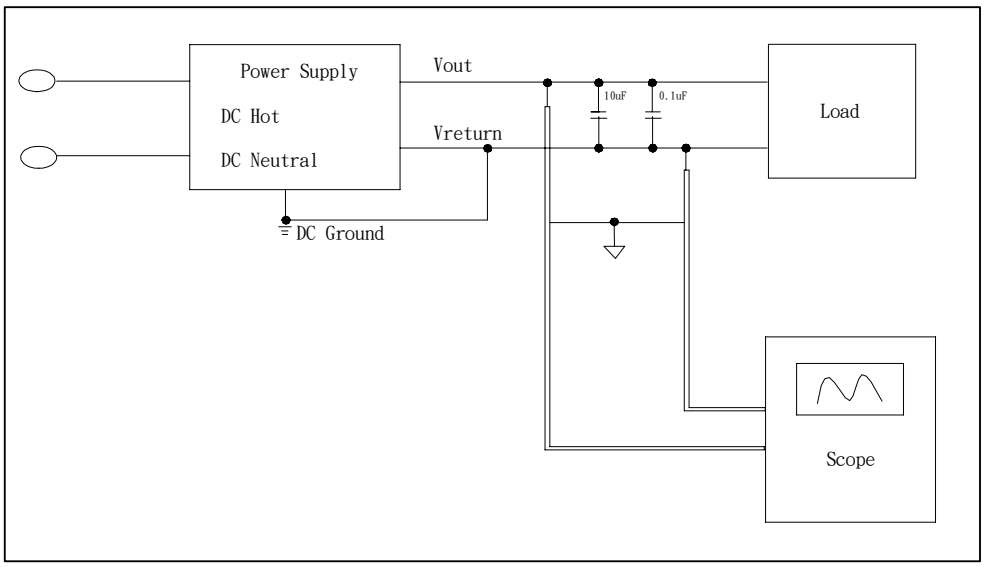
Output	V1	V2	V3	V4	V5
Voltage	+5V	+3.3V	+12V	-12V	+5Vsb
Max. Load	6A	9A	10A	0.3A	2A
Max Output power	30W	29.7W	120W	3.6W	10W
Over All Reg.%	+/-5%	+/-5%	+/-5%	+/-10%	+/-5%
Ripple & Noise	50mV	50mV	120mV	120mV	50mV

Note: 1: 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.

2: Peak currents may last up 17 seconds with not more than one occurrence per minute

3: The maximum combined load on +5V and +3.3V outputs shall not exceed 52W.

Ripple/Noise voltage test circuit



2.2 Efficiency

85% min. at full load and 16~24VDC input

2.3 TIMING

Signal timing drawing

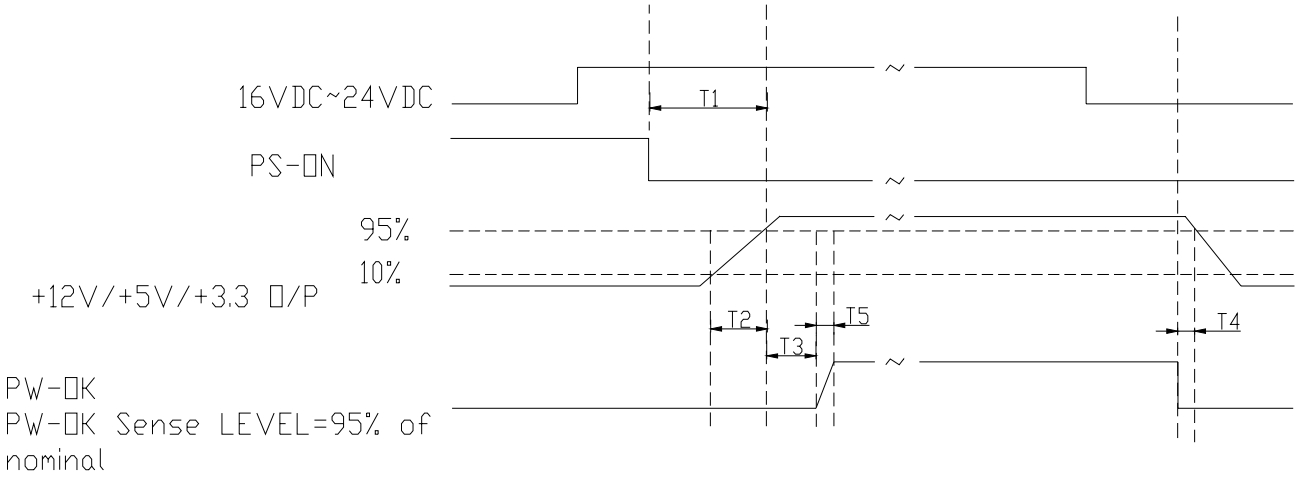


Figure 2. PS-OK Timing Sequence

2.4 Overshoot

(1)T2: Rise time (0.1ms~20ms)
(2)T3: Power good signal turn on delay time (100ms~500ms)
(3)T4: Power good signal turn off delay time (1ms min)
(4)T5: Rise time (10ms max)

2.5 Short circuit

Any overshoot at turn on or turn off shall be less 10% of the nominal voltage value, all outputs shall be within the regulation limit of section 2.0 before issuing the power good signal of section 4.0.

2.6 No load operation

An output short circuit is defined as any output impedance of less than 0.03 ohms.The power supply shall shut down and latch off for shorting the +3.3 VDC,+5 VDC,or+12 VDC rails to return or any other rail. The power supply shall either shut down and latch off or fold back for shorting the negative rails.+5VSB must be capable of being shorted indefinitely,but when the short is removed,the power supply shall recover automatically or by cycling PS_ON#.The power supply shall be capable of withstanding a continuous short-circuit to the output without damage or overstress to the unit

3.0 PHYSICAL CHARACTERISTICS

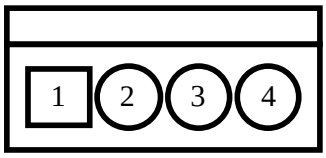
No damage or hazardous condition should occur with all the DC output connectors disconnected from the load.The power supply may latch into the shutdown state.

3.1 Size: 160mm x 45mm x 28mm

4.0 DC Connectors

4.1 DC INTPUT CONNECTOR

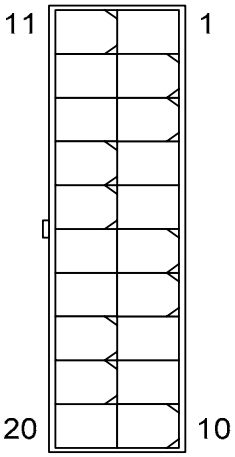
Connector : DC input (CNO1)



PIN	SIGNAL
1	GND
2	GND
3	16~24V
4	16~24

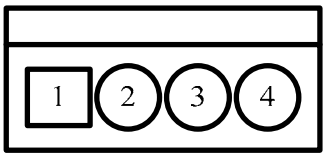
4.2 DC OUTPUT CONNECTOR

Connector : DC output (PW2)



PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	NC
9	5V_SB	19	5V
10	12V	20	5V

Connector : DC out ut (PW1)



PIN	SIGNAL
1	12V
2	GND
3	GND
4	12V

5.0 Environmental requirement:

5.1 Temperature

5.1.1 Operating : 0°C to 40°C.

5.1.2 None – Operating : -20°C to 70°C

5.2 Relative Humidity

5.2.1 Operating : To 85 % relative humidity (non-condensing)

5.2.2 Non-Operating : To 95 % relative humidity (non-condensing)

6.0 MECHANICAL SPECIFICATION