

**MODEL NO. MX0600F SERIES**

This specification defines the physical, functional and electrical characteristics of 80 watts with 5 outputs DC converter that supports EPIA mini ATX mainboard. Car battery with 12VDC output can be integrated with this DC converter.

**1.0 INPUT CHARACTERISTICS**

**1.1 Input Voltage** 12VDC+/-1%

**1.2 Input Current** 9A

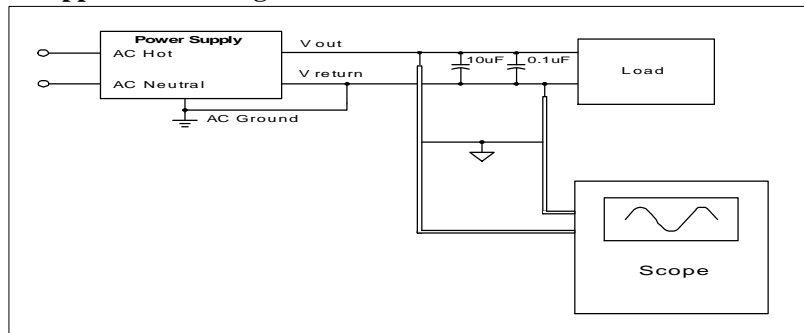
**2.0 OUTPUT CHARACTERISTICS**

**2.1 DC Output Characteristics**

Output	V1	V2	V3	V4	V5
Voltage	+5V	+3.3V	+12V	-12V	+5Vsb
Max. Load	5A	5A	2.5A	0.1A	1.5A
Max Output power	25W	16.5W	30W	1.2W	7.5W
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.

**Ripple/Noise voltage test circuit**



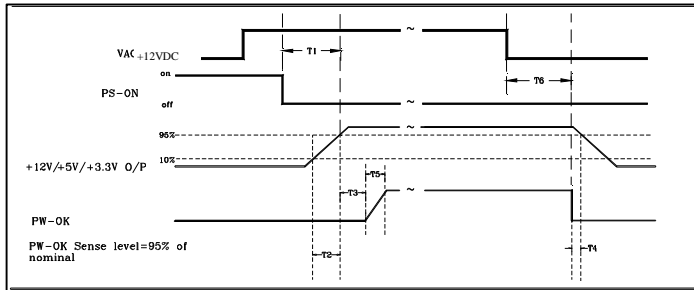
**2.2 Efficiency**

**80% min. at full load.**

**2.3 TIMING**

**Signal timing drawing**

Figure 2 is a reference for signal timing for main power connector signals and rails.



**Figure 2. PS-OK Timing Sequence**

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

**2.4 Overshoot**

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.

**2.5 Short circuit**

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. Shorts between main output rails and +5VSB shall not cause any damage to the power supply. 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

**2.6 No load operation**

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.

**3.0 PHYSICAL CHARACTERISTICS**

**3.1 Size :157x30x22.6mm**

**3.2 weight : 120g**

**4.0 DC Connectors**

**4.1 DC INPUT CONNECTOR**

Connector : DC input (CON1)

Pin	Signal
1	12V
2	GND

**4.2DC OUTPUT CONNECTOR**

Connector : DC output (CON2)

**P1 connector (Molex 39-01-2200 or equivalent)**

20AWG wire	Signal	Pin	Pin	Signal	20AWG wire
Orange	+3.3V	11	1	+3.3V	Orange
Blue	-12VDC	12	2	+3.3V	Orange
Black	COM	13	3	COM	Black
Green	PS-ON	14	4	+5VDC	Red
Black	COM	15	5	COM	Black
Black	COM	16	6	+5VDC	Red
Black	COM	17	7	COM	Black
White	NC	18	8	POK	Grey
Red	+5VDC	19	9	+5VSB	Purple
Red	+5VDC	20	10	+12VDC	Yellow

**5.0 Environmental requirement:**

**5.1 Temperature**

5.1.1 Operating : 0°C to 50°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 MTBF**

100,000 hours at 25°C

6.1 MECHANICAL SPECIFICATION

