

SPECIFICATION

产品规格书

Revision: 1.0

Issued Date: 2016-10-19

Model : MP118TX

Description: POWER SUPPLY & LED DRIVER SPECIFICATION

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1. Electrical Specification 电气规格

1.1 Table 1 Input Electrical Characteristics (输入特性)

Input voltage range 输入电压	AC90V to AC264V
Normal voltage range 标称输入	AC100V to AC240V
Frequency range 频率范围	(50Hz or 60Hz)±5%
Max input ac current 最大输入电流	Max. 3A at full load and AC90V input
Inrush current (cold start) 冷启浪涌电流	50A (TYP. peak) at 120Vac; 100A (TYP. peak) at 220Vac
Efficiency 效率	82%min at AC100V or AC240V input and full load
Harmonic current 谐波电流	Meet GB17625.1 or IEC61000-3-2 Class D
Touch Currents 接触电流	Less than 0.35mA (peak)
Standby Power Consumption 待机功耗	≤0.5W at AC240V 50Hz input and 5VSB output current≤25mA
Input Fuse 输入保险	T5AH 250V~

1.2 Output Electrical Characteristics (输出特性)

1.2.1 Table 2 Constant Voltage Output Specification (恒压输出规格)

Output Channel 输出通道	Output Rated Voltage 输出额定电压	Voltage Regulation 电压调整率	Min. current 最小电流	Rated current 额定电流	Peak current 峰值电流
+5VSB	+5.2V	±5%	0.02A	0.5A	1.5A
+5V	+5.2V	±5%	0.1A	2.0A	3.5A
+12V	+12V	±10%	0.1A	5.0A	9A
+24V	+24V	±10%	0.1A	5.0A	7A

Note: The testing of peak current shall be performed under other dc output load rating and the peak current pulse width within 50ms conditions. 峰值电流的测试条件是其它负载为额定负载时测试, 且脉宽小于 50 毫秒。

1.2.2 Table 4 DC Output Ripple & Noise. (输出纹波和噪声)

Output Channel	Output Rated Voltage	Ripple & Noise (Peak-peak, 峰-峰值)			
		Ta:25°C	Normal Input and Full Load	Ta: -10°C	Normal Input and Full Load
+5VSB	+5.2V	80mV		150mV	
+5V	+5.2V	80mV		150mV	
+12V	+12V	120mV		200mV	
+24V	+24V	240mV		350mV	

Note: Ripple & Noise test 纹波和噪声测试

1)the Bandwidth of oscilloscope is set to 20MHz.

示波器带宽设置在 20 兆赫兹。

2)Use a 0.1uF ceramic capacitor in parallel with a 10uF electrolytic capacitor at output connector terminals for ripple & noise measurements.

输出端并联一个 0.1uF 的陶瓷电容和一个 10uF 的电解电容来测试纹波和噪声。

1.2.3 Table 5 Dynamic Response Of Output. (输出动态响应)

Output Channel	Output Rated Voltage	Response Regulation of Output Voltage 输出电压响应调整率					
		Step Load 阶跃负载	Slew Rate	Frequency Rang	Step Load 阶跃负载	Slew Rate	Frequency Rang
		Min. to 50% or 50% to Max.	0.2A/us	50Hz~ 100Hz	Min. to Max.	0.2A/us	50Hz~ 100Hz
+5VSB	+5.2V	±5%			±10%		
+5V	+5.2V	±5%			±10%		
+12V	+12V	±10%			±10%		
+24V	+24V	±10%			±10%		

1.2.4 Table 6 Hold-Up Time (输出保持时间)

Output Channel	Output Rated Voltage	Hold-Up Time			
		120Vac input	Full Load	220Vac input	Full Load
+5VSB	+5.2V	≥5 ms		≥10 ms	
+5V	+5.2V	≥5 ms		≥10 ms	
+12V	+12V	≥5 ms		≥10 ms	
+24V	+24V	≥5 ms		≥10 ms	

1.2.5 Table 7 DC Output Overshoot During Turn-On/Off (输出超调)

Output Channel	Output Rated Voltage	Overshoot voltage(V)超调电压	
		Turn-on 开机	Turn-off 关机
+5VSB	+5.2V	≤10%	≤10%
+5V	+5.2V	≤10%	≤10%

+12V	+12V	≤10%	≤10%
+24V	+24V	≤10%	≤10%

Note: All of dc output current from Min. to Max. 测试时负载范围：最小到最大。

1.2.6 Table 8 DC Output Voltage Rise Time (输出上升时间)

Output Channel	Output Rated Voltage	Rise time	
		120Vac input and Full Load	220Vac input and Full Load
+5VSB	+5.2V	≤50 ms	≤50 ms
+5V	+5.2V	≤100 ms	≤100 ms
+12V	+12V	≤100 ms	≤100 ms
+24V	+24V	≤100 ms	≤100 ms

Note: The rise time measured is when the output voltages rise from 10% to 90% of specified output voltage V_{out} observed on the channel waveform.

上升时间为输出电压从 10% 上升到 90% 的时间。

1.3 Protection (保护功能)

1.3.1 Table 9 DC Output Over Current Protection (输出过流保护)

Output Channel	Over Current	Comments
+5VSB	≥1.5A (TYP.)	Hiccup 保护后重启
+5V	≥3.5A (TYP.)	Hiccup 保护后重启
+12V	≥8.0A (TYP.)	Hiccup 保护后重启
+24V	≥7.0A (TYP.)	Hiccup 保护后重启

Note: The over current protection should be tested at other load rating.

过流保护测试是在其它各路额定负载时测试。

1.3.2 Table 10 DC Output Short Circuit Protection (输出短路保护)

Output Channel	Comments
+5VSB	保护后重启
+5V	保护后重启
+12V	保护后锁机
+24V	保护后锁机

Note: The Short Circuit protection should be tested at other load rating.
短路保护测试是在其它各路额定负载时测试。

1.4 Table 11 Remote On/Off Control (遥控功能)

PSON Signal	Comments	Outputs
PSON - High	$\geq 3.0V \& 2.0mA$	Output
PSON - Low	$\leq 0.5V$	X
PSON -Open	--	X

The power supply DC outputs (except 5VSB) shall be enable with an active-TTL-compatible signal(PSON). The 5VSB is on whenever the AC power is present. The signal level must be between 0-5V.

除 5VSB 输出路外，其余输出受控于一个 TTL 电平兼容的信号（PSON）。5VSB 路输出电压 AC 上电后就建立了。此信号电平需在 0-5V 之间。

- * When PSON is pulled to TTL high, the DC outputs are to be enabled.
PS-ON 高电平，打开输出。
- * When PSON is pulled to TTL low or open circuit, the DC outputs are to be disabled.
PSON 低电平或悬空，关闭输出。

2. Safety (安全)

2.1 Standards (标准)

The power supply shall comply with the following Standards:

电源安全满足下列标准:

- 1) IEC/EN60065

- 2) UL60065
- 3) GB8898

2.2 Precaution Class for protection against electric shock (防电击保护措施类别)

Class II

2.3 Insulation (绝缘性能)

2.3.1 Table 14 Insulation Resistance (绝缘阻抗)

Input To Output	$\geq 10M\Omega$ (with DC500V at room temperature)
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2.3.2 Table 15 Dielectric strength (绝缘强度)

Input To Output	AC3000V 50Hz 1minute $\leq 10mA$
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3. EMC (电磁兼容性)

3.1 EMI (电磁干扰)

The power supply shall comply with the following Standards:

电源电磁干扰满足下列标准:

1) Conduction Emission : (传导干扰度)

- *CISPR13(55013)
- *EN55013
- *EN55022 CLASS B
- *GB13837
- *GB9254 CLASS B
- *FCC PART13
- *FCC PART15 CLASS B

2) Radiated Emission : (辐射干扰度)

- *CISPR13(55013)
- *EN55013
- *EN55022 CLASS B

- *GB13837
- *GB9254 CLASS B
- *FCC PART13
- *FCC PART15 CLASS B

Note: The power board should be assembled in customer product to test for passing the above criterion.需配合用户电路整机通过上述标准。

3.2 EMS (电磁抗扰)

The power supply shall comply with the following Standards:

电源电磁抗扰满足下列标准:

- 1) ESD (静电抗扰度)
 - *GB17626.2
 - *IEC/EN61000-4-2
- 2) EFT (脉冲群抗扰度)
 - *GB17626.4
 - *IEC/EN61000-4-4 3KV
- 3) SURGE (雷击浪涌)
 - *GB17626.5
 - *IEC/EN61000-4-5 1.5KV/3KV
- 4) DIP (电压跌落)
 - *GB17626.11
 - *IEC/EN61000-4-11

4. Environmental Requirement (工作环境)

4.1 Temperature (环境温度)

- * Operating 工作温度: -10°C to +40°C.
- * Storage 存储温度: -20°C to +80°C.

4.2 Humidity (环境湿度)

- * Operating 工作: From 10%to90% relative humidity (non-condensing).
- * Storage 存储: From 5% to95% relative humidity (non-condensing).

4.3 Altitude (海拔高度)

- * Operating: Less than 5000m (适用于在海拔低于 5000 米条件下使用)
- * Storage: Less than 5000m (适用于在海拔低于 5000 米条件下储存)

4.4 Climates (气候要求)

* For tropical climates (适用于热带气候)

4.5 Cooling Method (冷却方式)

* Ventilation cooling . 风道自然冷却

4.6 Vibration (振动耐受)

10-55Hz, 19.6m/s²(2G), 20minutes each along X, Y and Z axis.

需配整机满足如下标准:

10-55Hz, 49.0m/s²(5G),3minutes period, 60minutes each along X, Y and Z axis.

4.7 Shock (冲击耐受)

49m/s²(5G),11ms, once each X, Y and Z axis.

需配整机满足如下标准:

196.1m/s²(20G), 11ms, once each X , Y and Z axis.

5. Dimension (物理尺寸)

* 180mm X180mm X 14mm(元件面高) (长 L *宽 W * 高 H).

6. Weight (重量)

* TBD.

7. Pin Connection (连接器脚位定义)

Table 16 CON1(3Pin)

NO.	Pin Connection	Function
③	L	AC INPUT LINE
②	---	NC
①	N	AC INPUT NUTURE

Note: CON1 -- VH CONNECTION, TYPE : pitch3.96mm

Table 17 CON2(13Pin)

NO.	Pin Connection	Function
①②⑨⑩⑪	GND	+5VSB, +5V CHANNELS DC RETURN

⑤	PSON	SMPS ON/OFF CONTROL(ON = HIGH)
⑥	+5VSB	+5VSB CHANNEL DC OUTPUT
③④⑦⑧	+5V	+5V CHANNEL DC OUTPUT
⑫⑬	+12V	+12V CHANNEL DC OUTPUT

Note: CON2 -- XH CONNEETION, TYPE : pitch2.5mm

Table 18 CON3(4Pin)

NO.	Pin Connection	Function
①②	+24V	+24VDC OUTPUT
③④	GND	+24VDC CHANNELS DC RETURN

Note: CON3 -- XH CONNECTION, TYPE : pitch 2.5mm

Table 19 CON4(8Pin)

NO.	Pin Connection	Function
①②③④	+24V	+24VDC OUTPUT
⑤⑥⑦⑧	GND	+24VDC CHANNELS DC RETURN

Note: CON4 -- PH CONNEETION, TYPE : pitch2.5mm

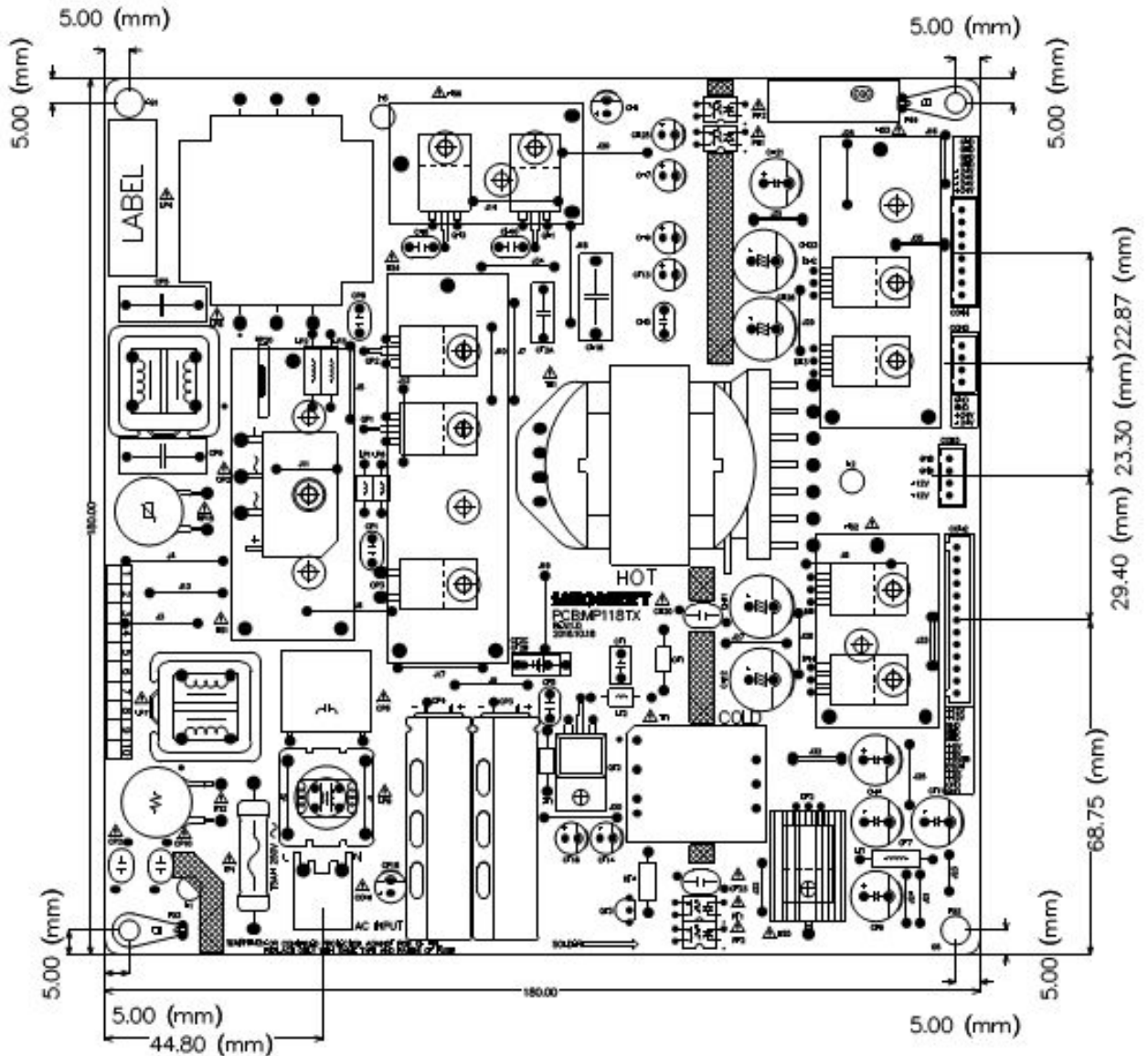
Table 20 CON5(4Pin)

NO.	Pin Connection	Function
①②	+12V	+12VDC OUTPUT
③④	GND	+12VDC CHANNELS DC RETURN

Note: CON4 -- PH CONNEETION, TYPE : pitch2.5mm

8. Power Supply Mounting (装配)

8.1 Power Supply Mounting (装配结构)



Note: The image shown here is indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern. (此图片仅供参考。若图片与实物有所不同，则以实物为准。)

8.1 Mount Method (装配事项)

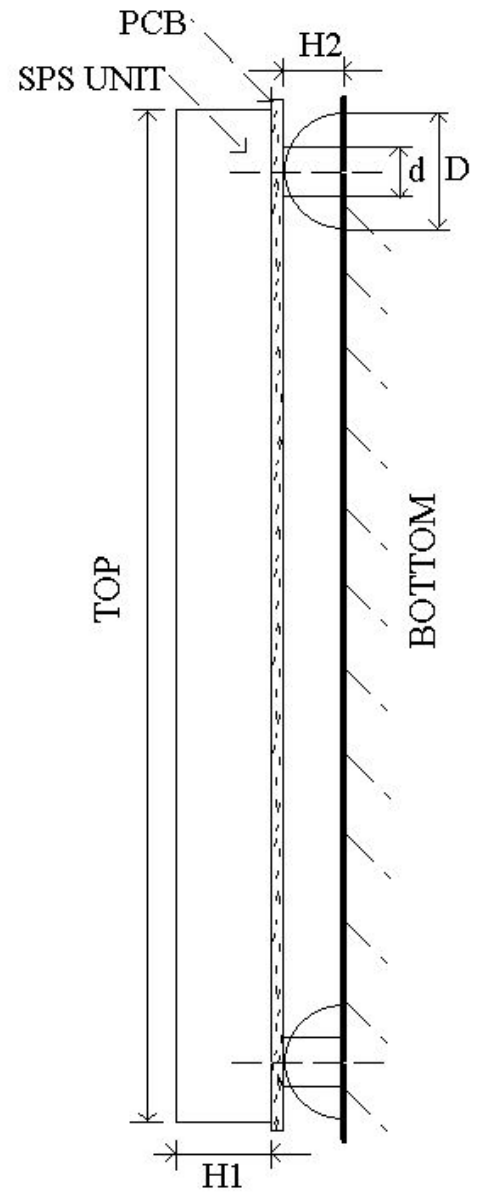
Table 22

D(1*)	≤5.5mm
H2(2*)	≥5.0mm
	≤10.0mm
H1	≤14mm

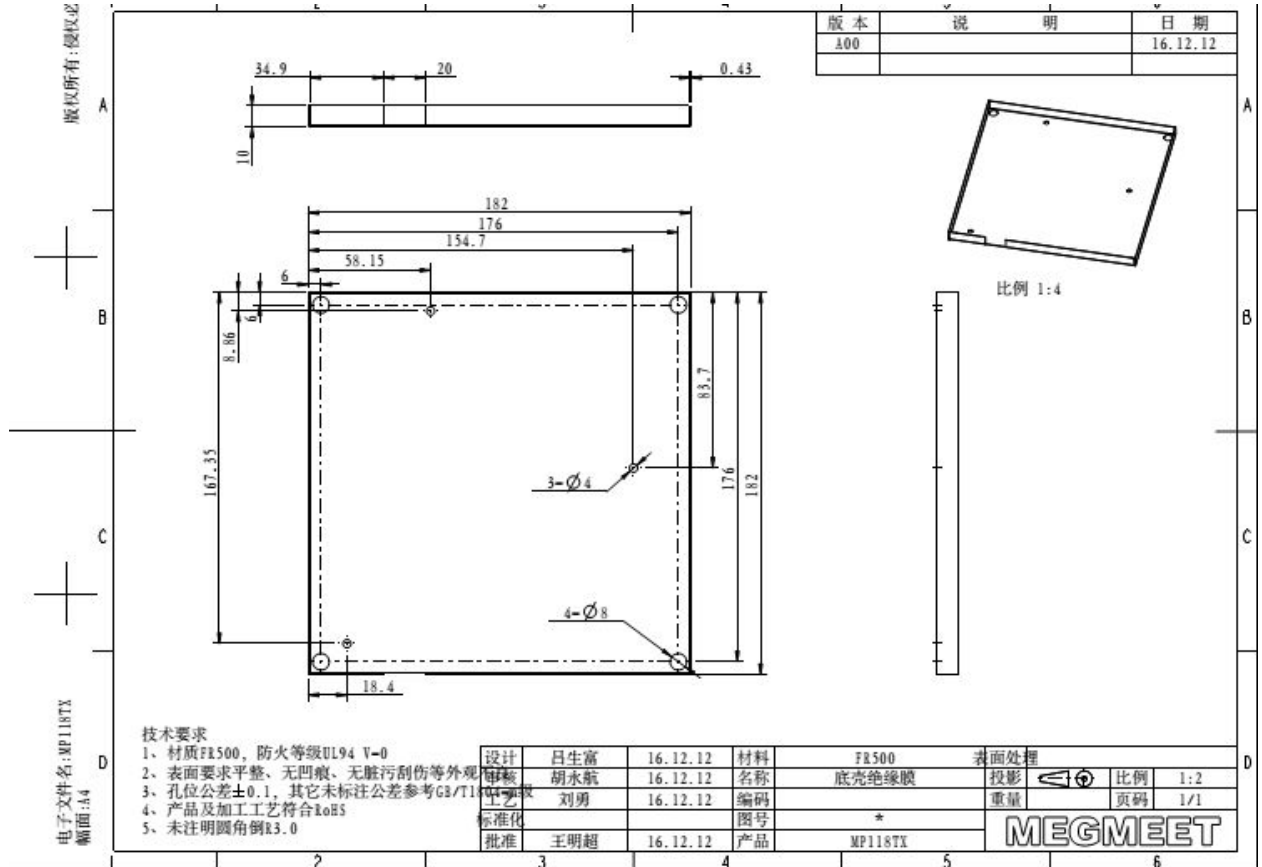
Note:

1*. Mount the unit to the mounting board using M3 screw. The maximum value of the tightening torque is 0.4N·M. The insertion depth of the screw should be less 5.5mm.

2*. Add 181mm×181mm× 0.43mm(W*H*T) Mylar under PCB



9. Mylar (绝缘麦拉片)



10. Package (包装)

TBD