

SPECIFICATION

产品规格书

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Model : MP5565TXA

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. 3.0A at full load and AC90V input
Inrush Current (cold start) 冷启浪涌电流	60A (peak) at AC100V 100A (peak) at AC240V
Efficiency 效率	83%Min. at AC240V input and full load
Harmonic Current 谐波电流	Meet GB17625.1 or IEC61000-3-2 Class D
Touch Current 接触电流	Less than 0.25mA (RMS)
Input Fuse 输入保险	T5A250V ~

1.2 Output Electrical Characteristics (输出特性)

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

配置一：默认 (MP5565TX)

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 Full load	Peak current 峰值电流
V12	+12.0V	±5%	0.1A	5.0A	7.0A
V5	+5V	±5%	0A	2.0A	2.5A
STB	+5V	±5%	0.02A	0.5A	0.8A

Note: The testing of peak current should be performed under other dc output load rating and the peak current pulse width within 100ms 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 100 毫秒。

配置二：默认 (MP5565TXA)

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 Full load	Peak current 峰值电流
V12	+12.0V	±5%	0.1A	7.0A	8.0A

Note: The testing of peak current should be performed under other dc output load rating and the peak current pulse width within 100ms 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 100 毫秒。

1.2.2 Table 3 Constant Current Output Specification (恒流输出规格)

Picture 图片	CN1 Position CN1 档位	Output Channel 输出通道	Output Voltage Rang 输出电压 范围	Current Regulat ion 电流调 整率	Output Rated Current 输出额定电流	
	12-11	LED1	70V-125V	± 8%	1200mA	600mA
		LED2				600mA
	10-9	LED1	70V-150V	± 8%	1000mA	500mA
		LED2				500mA
	8-7	LED1	70V-166V	± 8%	900mA	450mA
		LED2				450mA
	6-5 默认	LED1	70V-202V	± 8%	720mA	360mA
		LED2				360mA
	4-3	LED1	70V-205V	± 8%	600mA	300mA
		LED2				300mA
	2-1	LED1	70V-205V	± 8%	540mA	270mA
		LED2				270mA
	0	LED1	70V-208V	± 8%	480mA	240mA
		LED2				240mA

Note:

1. LED 背光范围 70-208V, 总电流最大 1.2A。
2. LED 输出总功率 $P_{LED} \leq 150W$;
3. 电源输出总功率 $\leq 200W$ 。

STB, V5, V12 降额 Derating:

$$D = (200W - P_{LED}) / 84W * 100\% \text{ @ } P_{LED} \geq 116W$$

$$D = 1 \text{ @ } P_{LED} \leq 116W.$$

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

Output Channel	Ripple & Noise (Peak-peak, 峰-峰值)	
	Ta:25°C	Normal Input and Full Load
V12	200mV	

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。
- 3) The Ripple & Noise test should be tested at other load rating.
纹波和噪声测试应该在其它各路额定负载时测试。

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

Output Channel	Response Regulation of Output Voltage 输出电压响应调整率					
	Step Load	Slew Rate	Frequency Rang	Step Load	Slew Rate	Frequency Rang
	Min. to 50% or 50% to Rating	0.2A/us	50Hz~100Hz	Min. to Rating	0.2A/us	50Hz~100Hz
V12	$\pm 10\%$			$\pm 10\%$		

1.2.5 Table 6 Hold-Up Time (输出保持时间)

Output Channel	Hold-Up Time			
	AC100V Input	Full Load	AC240V Input	Full Load
V12	≥ 10 ms		≥ 10 ms	

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

Output Channel	Overshoot voltage 超调电压 & Normal Input	
	Turn-on 开机	Turn-off 关机
V12	$\leq 10\%$	$\leq 10\%$

Note: All of dc output current from Min. to Rating 测试时负载范围：最小到额定。

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

Output Channel	Rise time	
	AC100V Input and Full Load	AC240V Input and Full Load
V12	≤100 ms	≤100 ms

Note: The rise time measured is when the output voltages rise from 10% to 90% of specified output voltage 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
V12	≥8.0A	Hiccup / latch off 保护后重启/锁死

Note: The Over Current Protection should be tested at other load rating.

过流保护测试应该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
V12	Hiccup / latch off 保护后重启/锁死

Note: The Short Circuit Protection should be tested at other load rating.

短路保护测试应该在其它各路额定负载时测试。

1.3.3 Table 11 DC Output Over Voltage Protection (输出过压保护)

Output Channel	Over Voltage	Comments
V12	15V~20V	Hiccup/Shutdown 打嗝/关机

Note: The Over Voltage Protection should be tested at Max. AC voltage and Min. load.

过压保护测试应该在最大交流输入电压和轻载下测试。

1.4 Table 13 The Backlight On/Off Control (背光控制)

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

The Constant Current Outputs should be controlled by a signal(BK),The signal level must be between 0-5V.

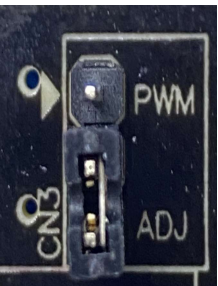
恒流输出受控于一个 BK 信号，此信号电平需在 0-5V 之间。

- * When BK is pulled to High, the constant current outputs are to be enabled.
BK 高电平，打开输出。
- * When BK is pulled to Low, the constant current outputs are to be disabled.
BK 低电平，关闭输出。

1.5 Table 14 Adjust Backlight Brightness (调光)

This power supply can accept DC and PWM dimming modes. The short-circuit jump cap installed at CN3 PWM is PWM dimming, and the short-circuit jump cap installed at CN3 ADJ is DC dimming.

此电源可以接受DC和PWM两种调光模式,CN3 PWM处安装短路跳帽为PWM调光,CN3 ADJ处安装短路跳帽为DC调光。

Picture	CN3	PWM /ADJ Signal	Comments
	PWM	PWM-High	$\geq 3.0V \leq 5V \& 2.0mA$
		PWM-Low	$\leq 0.5V$
		PWM-Duty	10%-100%
		PWM-Frequency	150Hz-300Hz
	ADJ 默认	ADJ-High (DC/PWM input)	0V 或悬空
		ADJ-Low (DC/PWM input)	$3.0V \geq ADJ \leq 5V \& 2.0mA$
		ADJ-Duty (PWM input)	100%-0%
		ADJ-Frequency (PWM input)	150Hz-50kHz

During PWM dimming mode, the ADJ pin must be connected to a PWM signal. This PWM signal can adjust the brightness of backlight, The wider the PWM signal duty cycle is, the brighter the backlight is. The signal level must be between 0-5V.

PWM 调光时, ADJ 脚需接 PWM 信号。此 PWM 信号能调节背光亮度, PWM 信号占空比越宽, 背光越亮。此信号电平需在 0-5V 之间。

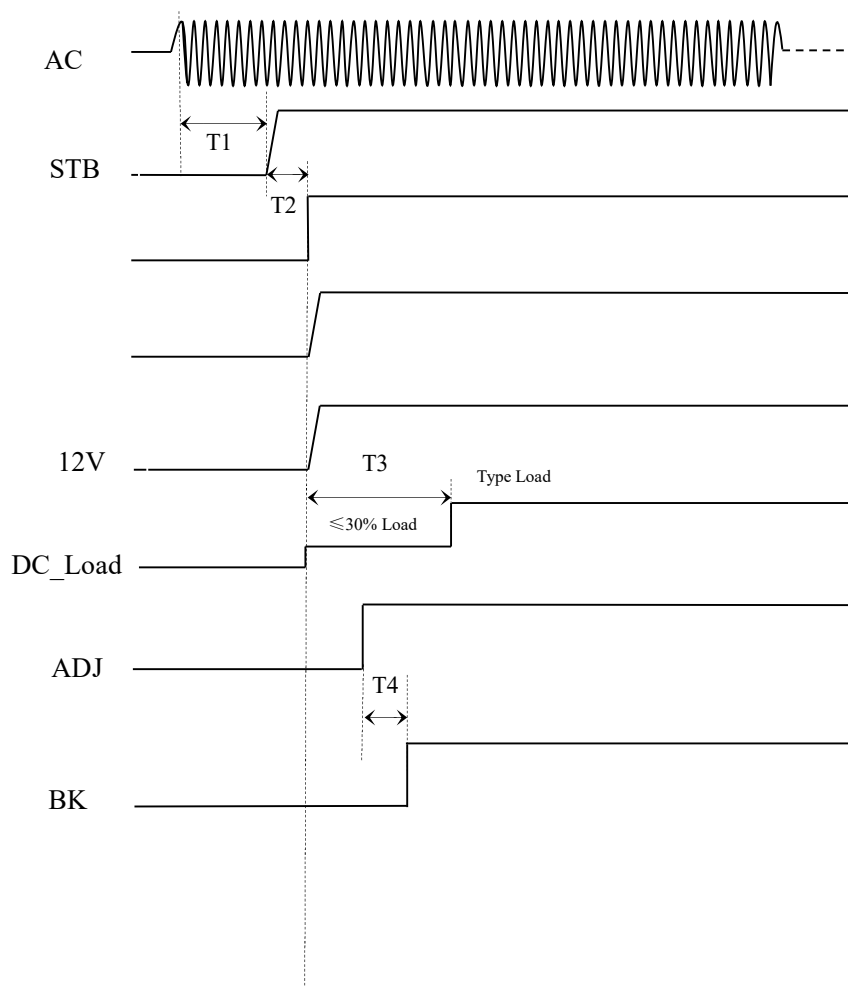
During DC dimming, the ADJ pin is connected to the external input voltage signal. The higher the voltage, the darker the backlight brightness, and the lower the voltage, the brighter the backlight brightness. The ADJ pin can also be connected to a PWM signal. This PWM signal can adjust the backlight brightness. The wider the PWM signal duty cycle, the darker the backlight, This voltage signal needs to be between 0 ~ 5V.

DC 调光时, ADJ 引脚接外部输入电压信号, 电压越高, 背光亮度越暗, 电压越低, 背光亮度越亮, ADJ 脚也可接 PWM 信号。此 PWM 信号能调节背光亮度, PWM 信号占空比越宽, 背光越暗, 此电压信号需要在 0~5V 之间。

Note: The customer selects the dimming mode according to the demand, and selects the installation position of short-circuit jump cap.

注意: 客户按照需求选择调光模式, 并选择短路跳帽安装位置。

1.6 Timing (时序图)



Parameter	MIN	TYP	MAX	Unit	Notes
T1	-	-	3	Sec	
T2	100	-	-	mS	
T3	-	-	1	Sec	
T4	50	-	-	mS	
-	-	-	-	mS	

Note: AC power on V12 output, turn on ADJ and finally input BK signal .
注意: AC 上电 V12 输出、开启 ADJ, 最后输入 BK 信号。

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/EN62368-1
- 2) UL62368-1
- 3) GB4943

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	$\geq 50\text{M}\Omega$ (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 $\leq 10\text{mA}$
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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）

*CISPR32

*EN55032

*GB13837

*FCC PART15B

2) Radiated Emission : (辐射干扰度)

- *CISPR32
- *EN55032
- *GB13837
- *FCC PART15B

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
 - ±6kV/±8kV Class B
- 2) EFT (脉冲群抗扰度)
 - *GB17626.4
 - *IEC/EN61000-4-4
 - 2kV 5k Hz/100k Hz Class B
- 3) SURGE (雷击浪涌)
 - *GB17626.5
 - *IEC/EN61000-4-5
 - 2.0kV/4.0kV Class B

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.

4.7 Shock (冲击耐受)

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

5. Dimension (物理尺寸)

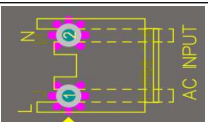
*180 mm X 180mm X 16mm(元件面高) (长 L *宽 W * 高 H).

6. Weight (重量)

*TBD

7. Pin Connection (连接器脚位定义)

Table 17 CN101(2Pin)

NO.	Pin Connection	Function	Picture
①	L	AC INPUT LINE	
②	N	AC INPUT NUTURE	

Note: TYPE : pitch7.92m

Table 18 CON4(6Pin)

NO.	Pin Connection	Function	Picture
①②	V12	V12 CHANNEL DC OUTPUT	
③	BK	BACKLIGHT ON/OFF CONTROL SIGNAL INPUT	
④	ADJ	DIMMING SIGNAL INPUT	
⑤⑥	GND	SIGNAL&V12 CHANNEL RETURN	

Note: TYPE : pitch2.0mm

Table 19 CON3(13Pin)

NO.	Pin Connection	Function	Picture
⑤	PS-ON	SMPS ON/OFF CONTROL SIGNAL INPUT	
⑥	STB	STB CHANNEL DC OUTPUT	
①②⑨⑩⑪	GND	SIGNAL&V12 & V5 CHANNEL RETURN	
⑫⑬	V12	V12 CHANNEL DC OUTPUT	
③④⑦⑧	V5	NC	

Note: TYPE : pitch2.5mm

Table 20 CON4(4Pin)

NO.	Pin Connection	Function	Picture
①②	V12	V12 CHANNEL DC OUTPUT	
③④	GND	V12 CHANNEL DC RETURN	

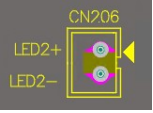
Note: TYPE : pitch2.5mm

Table 21 CN205(2Pin)

NO.	Pin Connection	Function	Picture
①	LED1+	LED1 CHANNEL CURRENT OUTPUT	
②	LED1-	LED1 CHANNEL CURRENT RETURN	

Note: TYPE : pitch2.0mm

Table 22 CN206(2Pin)

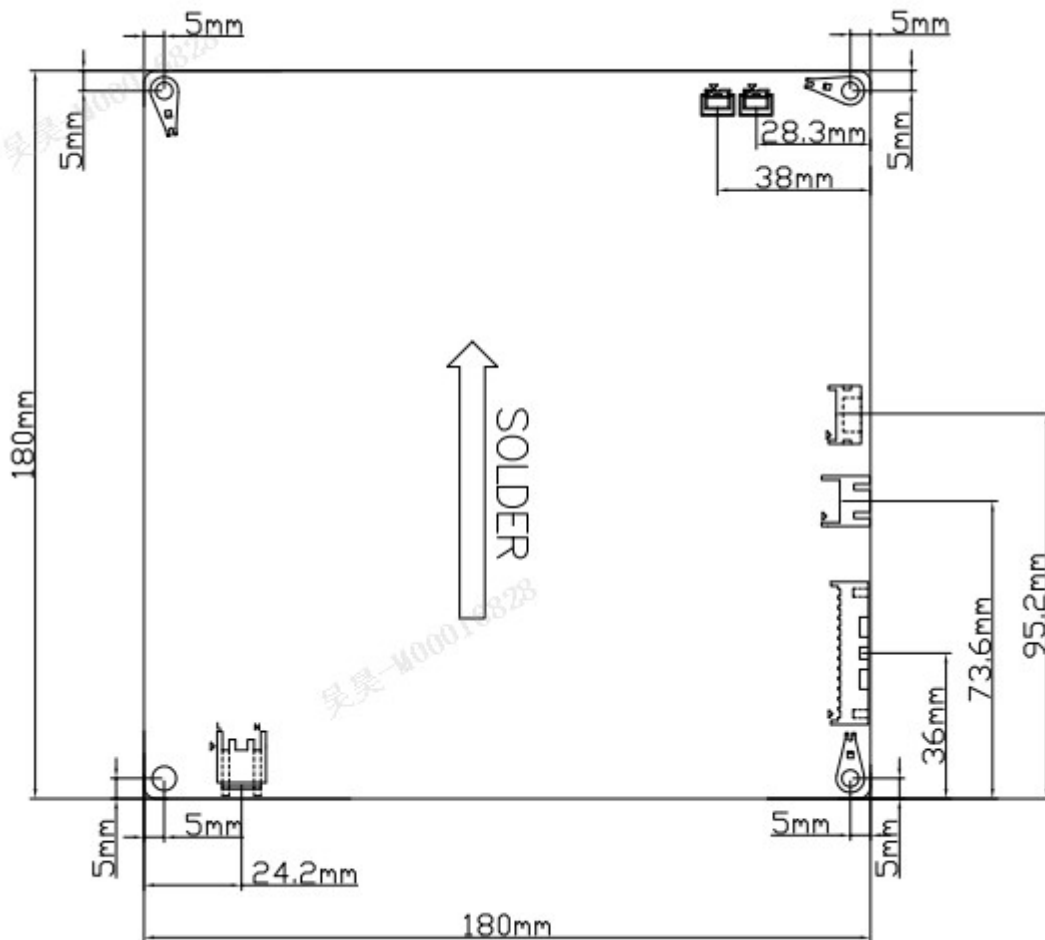
NO.	Pin Connection	Function	Picture
①	LED2+	LED2 CHANNEL CURRENT OUTPUT	
②	LED2-	LED2 CHANNEL CURRENT RETURN	

Note: TYPE : pitch2.0mm

8. Power Supply Mounting (装配)

8.1 Power Supply Mounting (装配结构)

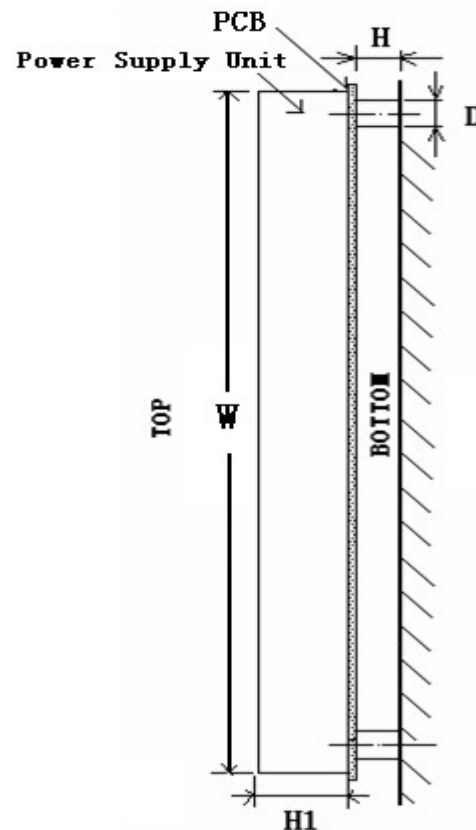
Note: The image shown here is indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern.(此图片仅供参考。若图片与实物有所不同, 则以实物为准。)



Mount Method (装配事项)

Table 23

D	6.0mm
H(1*)	≥3.5mm
	≤8mm
H1	≤16mm ± 0.5mm
W	180mm



9. Package (包装)

1. Carton (Internal Package)

1) Packing Form:

Corrugated fiberboard box

2) Packing Method:

2. Packing Specification

Item	Specification
Model	MP5565TXA
Carton size	/mm (Outside dimensions)
Quantity	/CTN
Gross weight	/kg
Net weight	/PCS