

承认书
SPECIFICATION FOR APPROVAL

Part No. MLT168A
Description: LCD Power Supply Specification
Revision: 1.5
Customer: _____
Customer Approval No. : _____

承认鉴章后请寄回承认书正本一份

Please return to us one original of "SPECIFICATION FOR APPROVAL" with your approved signatures.

承认书 APPROVED SIGNATURES	
核准人 APPROVED BY:	日期 DATE:
盖章签署 CHOP & SIGNATURES:	

深圳市麦格米特电气技术有限公司
SHENZHEN MEGMEET ELECTRICAL TECHNOLOGY CO.,LTD
Add: 6F Tower 2, Zhongjian Industrial Building
18 Yanshan Road , Shekou, Shenzhen, P.R.China
ZIP CODE:518067
TEL: (0755)26693042 26693442
FAX: (0755)26693047
E-mail: YDP@megmeet.com

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No. : MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No. :	REV:
2006-9-29	RHJ	GUI	YANG	MLT168A-1.5	1.0

Section 目录

1. Power supply overview 电源性能指标
 - 1.1 Input Electrical Characteristics Overview (输入特性)
 - 1.2 Output Electrical Characteristics Overview (输出特性)
 - 1.2.1 Output Voltage ,Current & Regulation. (输出电压电流调整率)
 - 1.2.2 DC Output Ripple & Noise. (输出纹波和噪声)
 - 1.2.3 Output Transient Response. (输出动态响应)
 - 1.2.4 DC Output Hold-Up Time. (输出保持时间)
 - 1.2.4 DC Output Overshoot At Turn On & Turn Off. (输出超调)
 - 1.2.6 DC output voltage rise time (输出上升时间)
 - 1.3 Remote On/Off Control: (遥控功能)
 - 1.4 Protection: (保护功能)
 - 1.4.1 DC output Over Voltage Protection. (输出过压保护)
 - 1.4.2 DC Output Over current Protection. (输出过流保护)
 - 1.4.3 DC Output Short Circuit Protection. (输出短路保护)
 - 1.4.4 Over Temperature Protection. (过温保护)
 - 1.4.5 Reset After Shutdown. (保护功能复位)
2. Isolation 绝缘性能
3. Safety 安全规格
4. EMC 电磁兼容性
 - 4.1 EMI (电磁干扰)
 - 4.2 EMS (电磁抗扰)
5. Environmental Requirement 环境
 - 5.1 Temperature (环境温度)
 - 5.2 Humidity (环境湿度)
 - 5.3 Altitude (海拔高度)
 - 5.4 Cooling Method (冷却方式)
 - 5.5 Vibration (振动耐受)
 - 5.6 Impact (冲击耐受)
6. Dimension (物理尺寸)
7. Weight (重量)
8. Pin Connection (连接器脚位定义)
9. Power Supply mounting (安装尺寸)
10. Package (包装)

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.: MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.:	REV:
2006-9-29	RHJ	GUI	YANG	MLT168A-1.5	1.0

1. Power Supply Overview 电性能指标:

1.1 Table 1 Input Electrical Characteristics Overview (输入特性)

Input voltage range 输入电压	90Vac to 264Vac
Normal voltage range 标称输入	100Vac to 240Vac
Frequency range 频率范围	50Hz/60Hz±5%
Max input ac current 满载输入电流	2.6Amax at full load condition
Inrush current (cold start) 浪涌电流	50A _{typ} peak, 120Vac;100A _{typ} peak, 220Vac
Efficiency(full load) 效率	80%min at 90Vac; 82%min at 220Vac
Harmonic current 谐波电流	Meet GB17625.1-1998/IEC61000-3-2 class D
Leakage Current 泄漏电流	Less Than 0.75mA, 230Vac input
Standby Power Loss 待机功耗	≤1W, 240Vac input
Input Fuse 输入保险	T5AH/250Vac

1.2 Output Electrical Characteristics Overview (输出特性)

1.2.1 Table 2 Output Voltage ,Current & Regulation. (输出调整率)

Output Voltage 输出电压	Regulation 调整率	Min. current 最小电流	Rated current 额定电流	Peak current 峰值电流
+A21V	±10%	0.1A	1A	2A*
+24V	±5%	0.2A	4A	5A*
+12V	±10%	0.3A	1A	1.5A*
+9V	±10%	---	0.6A	---
+5.0V	±5%	0.1A	5A	6A*
5. Vsb	±5%	0.05A	1A	2A*

Note:* The peak current should be test at other of dc output at Rated load ,And the peak current pulse width within 100ms 峰值电流的测试是在其它额定负载时测试,且脉宽小于 100 毫秒。

1.2.2 Table 3 DC Output Ripple & Noise. (输出纹波和噪声)

Output Voltage	Ripple & Noise (Max.)
+A21V	240mVp-p@25°C 350mVp-p@-10°C
+24V	240mVp-p@25°C ;350mVp-p@-10°C
+12V	200mVp-p@25°C ; 300mVp-p@-10°C
+9V	100mVp-p@25°C ; 200mVp-p@-10°C
+5.0V	50mVp-p@25°C ; 100mVp-p@-10°C
5Vsb	50mVp-p@25°C ; 100mVp-p@-10°C

Note: 1) Measurements shall be made with an oscilloscope with 20MHz bandwidth.
示波器须设置在 20 兆赫兹带宽

MEGMEET 麦格米特电气技术有限公司

MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.

DESCRIPTION:

(规格书)

SPECIFICATION

THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.

Model No.:

MLT-168A

DATE

PREPARED

CHECKED

APPROVED

Document No.:

REV:

2006-9-29

RHJ

GUI

YANG

MLT168A-1.5

1.0

2) Outputs shall be bypassed at the connector with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading.

输出须并联 0.1uF 的陶瓷电容和 10uF 的电解电容来模拟负载

1.2.3 Output Transient Response. (输出动态响应)

Table 4. Test condition. 测试条件

Voltage Tolerance Limit	Slew Rate	Load Change
5. 0V、5Vsb±5%、A21V、24V、12V±10%	0.2A/uS	Min. to 50% load and 50% to Max load
all outputs ±10% (9V 除外)	0.2A/uS	Min. load to Max load

Note: Transient response measurements shall be made with a load changing repetition rate of 50Hz to 10kHz. 以 50~10KHz 的频率跳变负载来测试。

1.2.4 Table 5 DC Output Hold-Up Time. (输出保持时间)

Output Voltage	120Vac input	220Vac input
+A21V、+24V、	≥10 mS	≥10 mS
5Vsb、+5V、+9V、+12V	≥10 mS	≥10 mS

Note: All of dc output at full load. 所有输出带满载

1.2.5 Table 6 DC Output Overshoot At Turn On & Turn Off. (输出超调)

Output Channel	Output (V)	Over shoot voltage (V) 超调电压	
		Turn on 开机	Turn off 关机
+24V	+24V	10%	5%
+A21V	+A21V	10%	5%
+12V	+12V	10%	5%
+9V	+9V	---	---
+5.0V	+5.0V	10%	5%
5Vsb	5Vsb	10%	5%

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 7 DC output voltage rise time (输出上升时间)

Output Voltage	120Vac input & Full Load	220Vac input & Full Load
+24V	≤30 mS	≤30mS
+A21V	≤30 mS	≤30 mS
+12V	≤30 mS	≤30 mS
+9V	≤30 mS	≤30 mS
+5.0V	≤30 mS	≤30 mS
5Vsb	≤20 mS	≤20 mS

Note: The output voltages shall rise from 10% to 90% of their output voltage.

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.: MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.:	REV:
2006-9-29	RHJ	GUI	YANG	MLT168A-1.5	1.0

1.3 Remote On/Off Control: (遥控功能)

The power supply DC outputs (without +5.0Vsb) shall be enable with an active-high TTL($\geq 2.5V/2.0mA$)-compatible signal(Ps-on). The +5.0Vsb is on whenever the AC power is present.

除 5.0Vsb 外, 其余输出受控于一个 TTL 电平兼容的信号 ($Ps-on \geq 2.5V/2.0mA$), 5.0Vsb 上电就存在。

- * When Ps-on is pulled to TTL high, the DC outputs are to be enabled.
Ps-on 高电平, 打开输出
- * When Ps-on is pulled to TTL low or open circuit, the DC outputs are to be disabled.
Ps-on 低电平, 关闭输出

Table 8.

Ps-on Signal	Comments	Outputs
Ps-on- high	$\geq 2.5V \& 2.0mA$ (source)	Enable
Ps-on- low	$\leq 1.0V$	X
Ps-on-open	--	X

1.4 Protection: (保护功能)

1.4.1 Table 9 DC output Over Voltage Protection. (输出过压保护)

Output Voltage	Max. Over Voltage	Comments
+24V	30V	Hiccup 保护后重起
+5.0 V	7.5Vtyp	Hiccup 保护后重起

Note: The power supply shall be test at max AC voltage (264Vac) and min load or no load.
应该在最大交流输入电压 264 伏和轻载、空载下测试。

1.4.2 Table 10 DC Output Over current Protection. (输出过流保护)

Output Voltage	Over Current	Comments
+24V	$\geq 5A_{typ}$	Hiccup 保护后重起
+A21V	$\geq 2A_{typ}$	Hiccup 保护后重起
+12V	$\geq 1.5A_{typ}$	Hiccup 保护后重起
+9V	-----	-----
+5.0V	$\geq 6A$	Hiccup 保护后重起
5Vsb	$\geq 2A$	Hiccup 保护后重起

Note:* The over current protection should be test at other of dc output at Rated load
过流保护测试是在其它额定负载时测试。

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.: MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.: MLT168A-1.5	REV:
2006-9-29	RHJ	GUI	YANG		1.0

1.4.3 Table 11 DC Output Short Circuit Protection. (输出短路保护)

Output Voltage	Comments
+24V/+A21V*	Hiccup 保护后重起
5VSB /+5.0V/+12V *	Hiccup 保护后重起
+9V	No protection 无短路保护

Note: * The Short Circuit protection should be test at other of dc output at Rated load
短路保护测试是在其它额定负载时测试.

1.4.4 Reset After Shutdown. (保护功能复位)

Recycle the ps-on signal, the power supply will restart after the fault removed.
故障去除后, 关掉 Ps-on 信号再打开, 电源即可恢复。

2. Isolation (绝缘性能)

2.1 Table 12 (绝缘阻抗)

Input To Output	DC500V 15M Ω min (at room temperature)
Input To FG	DC500V 15M Ω min (at room temperature)
Output To FG	Isolated

2.2 Table 13 (绝缘耐压)

Input To Output	3000Vac 50Hz 1minute \leq 10mA
Input To FG	1500Vac 50Hz 1minute \leq 10mA
Output To FG	Isolated

Note: Open FG and Output return. 交流地和输出负极要断开。

3. Safety (安全规格)

The power supply shall compliance with the following Criterion:
电源安全性满足下列标准

- 1) UL60950
- 2) EN60950
- 3) GB4943-1995/GB8898-2001

4. EMC (电磁兼容性)

4.1 EMI (电磁干扰)

The power supply shall compliance with the following Criterion:
电源电磁干扰满足下列规则:

- 1) Conduction Emission : (传导干扰度)
*EN55013, CLASS B

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.: MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.:	REV:
2006-9-29	RHJ	GUI	YANG	MLT168A-1.5	1.0

*GB13837-2003, CLASS B

*CISPR13:2001

2) Radiated Emission : (辐射干扰度)

*EN55013, CLASS B

*GB13837-2003, CLASS B

*CISPR13:2001

注: The power board should be assembled in customer's product to test for passing the regulations 需配合用户电路整机通过上述规则。

4.2 EMS (电磁抗扰)

The power supply shall compliance with the following Criterion:

电源电磁抗扰满足下列规则:

1) ESD (静电抗扰度)

*GB17626. 2-1998/IEC61000-4-2 Lever 3

2) EFT (脉冲群抗扰度)

*GB17626. 4-1998/IEC61000-4-4 Lever 3

3) SURGE (雷击浪涌)

*GB17626. 5-1998/IEC61000-4-5 Lever 3

4) DIP (电压跌落)

*GB17626. 11-1998/IEC61000-4-11 Class B/C

5. Environmental Requirement (工作环境)

5.1 Temperature (环境温度)

* Operating 工作温度: -10°C to +50°C.

* Store 存储温度: -20°C to +80°C.

5.2 Humidity (环境湿度)

* Operating 工作: From 10%to90% relative humidity , (non-condensing).

* Store 存储: From 5 to 95% relative humidity , (non-condensing).

5.3 Altitude (海拔高度)

* Operating: to10,000 ft.

* Store: to 20,000ft.

5.4 Cooling Method (冷却方式)

* Ventilation cooling . 风道自然冷却

5.5 Vibration (振动耐受)

* 10-55Hz, 19.6m/s² (2G), 3minutes period, 20minutes each along X, Y and Z axis.

5.6 Impact (冲击耐受)

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

6. Dimension (物理尺寸)

* 200mm X 130mm X 26mm(元件面高) (长L*宽W* 高H).

7. Weight (重量)

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.: MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.:	REV:
2006-9-29	RHJ	GUI	YANG	MLT168A-1.5	1.0

* 550g typ

8. Pin Connection (连接器脚位定义)

Table 14 CON3 Connection And Function

NO.	Pin Connection	Function
2	STB(PS-ON/OFF)	SMPS ON CONTROL (on-high) (off-low)
3. 4.	GND	+5. 0Vsb RETURN
5. 6	+5. 0Vsb	+5. 0Vsb OUTPUT
1. 7	NC	NC

Note: CON3-7 XH CONNEETION, TYPE : pitch2.5mm

Table 15 CON4 Connection And Function

NO.	Pin Connection	Function
1. 2. 3. 4. 5. 6	GND	+5. 0VDC RETURN
7. 8. 9. 10. 11	+5. 0V	+5. 0VDC OUTPUT

Table 16 CON5 Connection And Function

NO.	Pin Connection	Function
1. 2.	+9VDC	+9. 0VDC OUTPUT
3. 4. 5. 6. 7	GND	+9. 0VDC +12VDC RETURN
8. 9. 10	+12VDC	+12. 0VDC OUTPUT

Table 17 CON6 Connection And Function

NO.	Pin Connection	Function
3. 4	+A21VDC	+A21VDC OUTPUT
1. 2	GND	+A21VDC RETURN

Table 18 CON7 Connection And Function

NO.	Pin Connection	Function
1. 2. 3. 4	+24VDC	+24VDC OUTPUT
5. 6. 7. 8	GND	+24VDC RETURN

MEGMEET 麦格米特电气技术有限公司
MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.

DESCRIPTION:

(规格书)
SPECIFICATION

THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.

Model No.:

MLT-168A

DATE	PREPARED	CHECKED	APPROVED
2006-9-29	RHJ	GUI	YANG

Document No.:

MLT168A-1.5

REV:

1.0

Table 19 CON0 POWER AC INPUT

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

Note: CON0-2 VH CONNEETION, TYPE : pitch:3.96mm

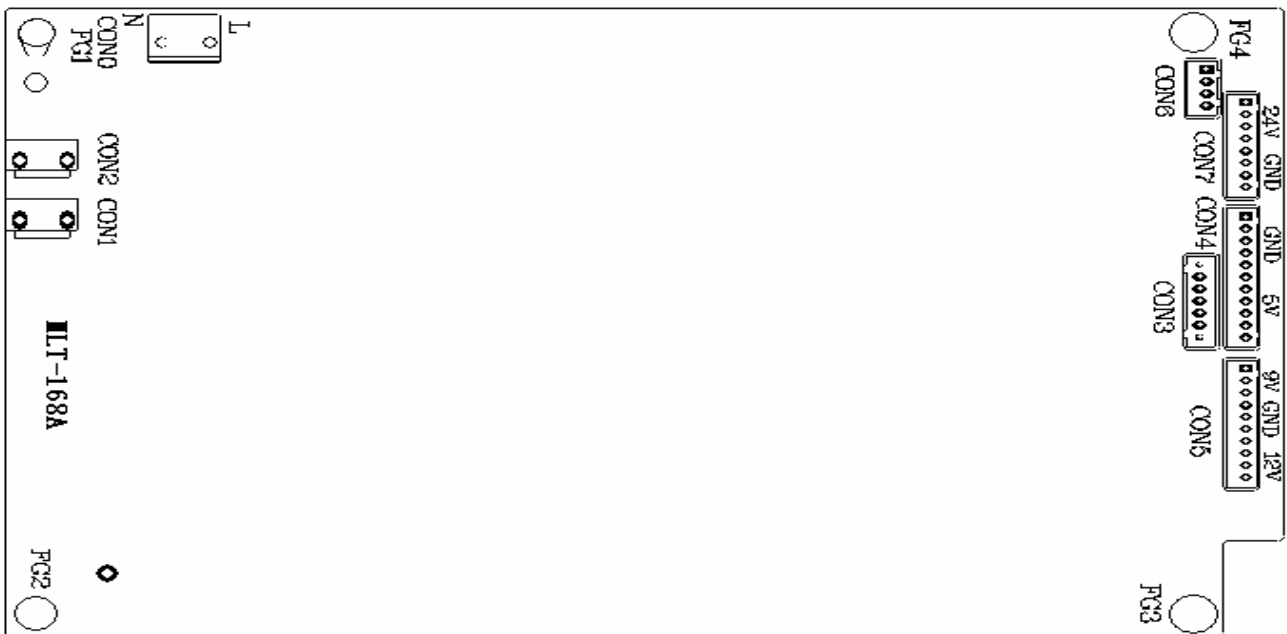
Table 20 CON1 Connection And Function

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

Table 21 CON2 Connection And Function

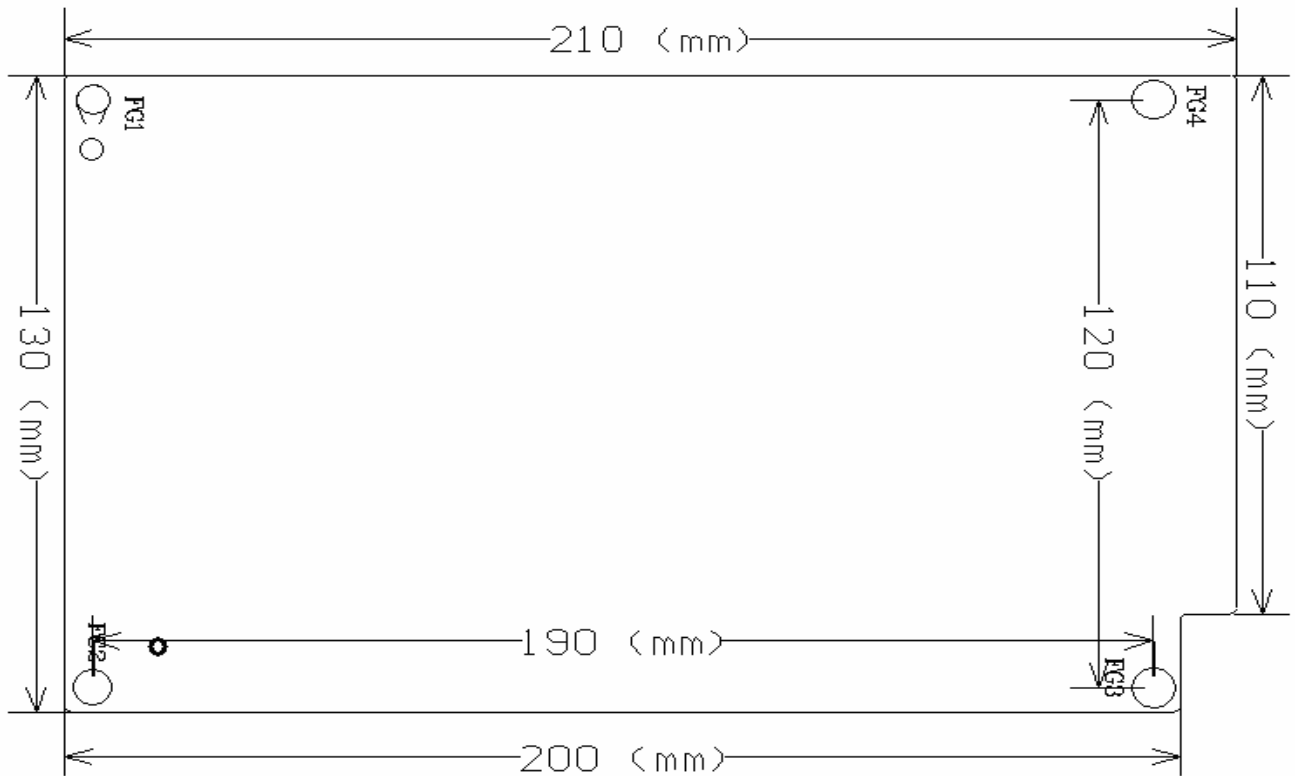
NO.	Pin Connection	Function
1	AC-L	AC INPUT LINE SWITCH
2	NC	NC
3	AC-N	AC INPUT NATURE SWITCH

Fig.8.1 Pin Connection (Top View)



MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION:	
				(规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.:	
				MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.:	REV:
2006-9-29	RHJ	GUI	YANG		

9. Power Supply Mounting (安装尺寸)



9. Package 包装

防静电气泡袋，每箱装 20 片，毛重 12Kg
 包装箱尺寸：507X347X258

MEGMEET 麦格米特电气技术有限公司 MEGMEET ELECTRICAL TECHNOLOGY CO., LTD.				DESCRIPTION: (规格书) SPECIFICATION	
THESE SPECIFICATION ARE THE PROPERTY OF MEGMEET ELECTRICAL TECHNOLOGY CO., LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.				Model No.: MLT-168A	
DATE	PREPARED	CHECKED	APPROVED	Document No.:	REV:
2006-9-29	RHJ	GUI	YANG		