



# 客户承认书

## SPECIFICATION FOR APPROVAL

CUSTOMER/客户: \_\_\_\_\_

CUSTOMER P. N. /客户物料号: \_\_\_\_\_

MODEL NO. /产品型号: \_\_\_\_\_ PWB015N024BPCCA

PRODUCT NO. /产品编号: \_\_\_\_\_ R00059

SAMPLE DATE/送样日期: \_\_\_\_\_ 2016.12.8

CUSTOMER AUTHORIZED SIGNATURE/客户承认签核		

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature.

客户确认签字盖章后, 请回传一份承认书给我司.

Address: Floor 2&5, Block B Jinhao Industrial Zone, 9<sup>th</sup> Dafu Industrial Area, Aobei Community, Guanlan Street, Longhua District, Shenzhen, China.

地址: 深圳市龙华新区观澜街道凹背社区大富工业区金豪创业园B栋2&5楼

TEL: 0755-23063689

FAX: 0755-23208389

P. C. : 518110

Web: <http://www.step-led.com/>

拟 制:	项目工程师:	安规工程师:	批 准:



### Revision History/变更履历表

Rev. 版本	Description of Change/变更内容描述		Change Date/日期	Notes/备注
	Before/变更前	After/变更后		
V0	Original Release(初次发行)	---	2016. 4. 28	---
V1	Original Release(初次发行)	Increase parameters according to customer's requirement 根据客户要求增加参数	LTH 2016. 12. 8	

## ELECTRICAL PERFORMANCE 电气性能

### 1. SAFETY STANDARD/安规标准:

The power supply shall be certified by the following international regulatory standards.

电源应符合下列的国际标准。

Item/标准	Country/国家	Certified Status/认证状态	Standards/标准
TUV/GS/CE	欧盟	APPROVED	IEC61347-1/IEC61347-2-13 EN55015/EN61547/EN6100-3-2/EN6100-3-3
UL	北美	APPROVED	UL8750/UL1310

### 2. DIELECTRIC WITHSTANDING STRENGTH (HI-POT)/绝缘介电强度 (耐压)

(S) :

Primary to Secondary AC3.75KV, 3.5mA 1 minute for type test, 3 second for production.

一次侧对二次测: AC3.75KV, 3.5 mA 标准测试 1 分钟, 量产测试 3 秒钟。

### 3. INPUT FEATURE/输入特征:

3.1 Rated Input Voltage: 100-240Vac. 额定输入电压: 100-240\_Vac

Input Voltage Range: 90 Vac to 264 Vac. 输入电压的范围: 90 Vac- 264 Vac

3.2 Rated Input Frequency: 50/60 Hz 额定输入频率: 50/60 Hz

3.3 Input Current: 260 mA max. at 100-240 Vac Input.

最大输入电流 260 mA(输入条件 100-240 Vac)

3.4 Inrush Current: 20 A max. at 100-240 Vac input for a cold start at 25°C.

在冷机条件下, 最大浪涌电流不超过 20 A (输入条件 100-240Vac) .

3.5 Average Efficiency: More than 84.1 % at 115Vac 60 Hz input load after half hour.

平均效率高于 84.1 %(输入 115Vac 60 Hz 条件下, 且在煲机半小时后测试)

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V1
PRODUCT NO./产品编号	R00059	PAGE/页码	第 3 页共 10 页

## ELECTRICAL PERFORMANCE 电气性能

### 4. OUTPUT FEATURE/输出特性:

RATED OUTPUT/ 额度输出	SPEC.LIMIT/规格限定		RENARK/备注
	Min. value	Max. value	
24VDC			
Output regulation/输出电压规格 (I)	22.8Vdc	25.2Vdc	NO LOAD
Output regulation/输出电压规格 (I)	22.8Vdc	25.2Vdc	FULL LOAD(0.625A)
Output load/输出负载规格 (I)	0A	0.625A	
Ripple and Noise/输出波纹及噪音		<240mVp-p	20MHz Bandwidth 47uF Ele. Cap and 0.1uF Cer. Cap.

### 5. PROTECT ION FEATURE/保护特性:

#### 5.1 OVER-CURRENT PROTECTION/过流保护:

The power supply shall be protected (hiccupped & power reduced) when any output operating in overload condition (set at Max. 1.1 A) under any line condition for an indefinite period of time. The power supply shall be self-recovery when the fault condition is removed.

在任何时候, 任何输入条件, 当输出操作在过载条件 (设定最大 1.1 A) 时, 电源供应器将进入保护 (打嗝或功率下降) 模式, 当过载故障被移走后, 电源能自动恢复正常。

#### 5.2 SHORT-CIRCUIT PROTECTION/输出短路保护:

The power supply shall be protected (Hiccupped & power reduced) and no damage shall occur when any output operating in a short circuit condition under any line condition for an indefinite period of time. The power supply shall be self-recovery when the fault condition is removed.

在任何时候, 任何输入条件下, 当输入操作在短路情况下, 电源供应商将进入保护 (打嗝或功率下降) 模式, 当短路故障消失后, 电源要能自动恢复正常。

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V1
PRODUCT NO./产品编号	R00059	PAGE/页码	第 4 页共 10 页

## ELECTRICAL PERFORMANCE 电气性能

### 6. ENVIRONMENTAL CONDITIONS/环境保护:

#### 6.1 OPERATING/操作条件:

The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental conditions.

在下列环境条件下，电源供应器要能够连续操作在各种模式，且不能造成性能的退化。

6.1.1 Storage Temperature:  $-30^{\circ}\text{C}\sim 70^{\circ}\text{C}$ /存储环境温度:  $-30^{\circ}\text{C}\sim 70^{\circ}\text{C}$

6.1.2 Storage relative humidity:10%-90%/存储相对湿度: 10%-90%

6.1.3 Operating relative: $-10^{\circ}\text{C}- +40^{\circ}\text{C}$ /工作温度:  $-10^{\circ}\text{C}- +40^{\circ}\text{C}$

6.1.4 Operating relative humidity:10%-80%/工作相对湿度: 10%-80%

6.1.5 Case surface temperature( $T_c$ ): $80^{\circ}\text{C}$  max(at normal operating condition)/  
外壳表面温度( $T_c$ ):  $80^{\circ}\text{C}$  max(在正常操作条件下)

#### 6.1.35 Vibration and Shock/振动和冲击:

The power supply shall be designed to withstand normal transportation vibration per GB/T4857.10, as it is mounted in the chassis assemble and packed for shipping.

电源供应器装配及出货的包装设计，均要能承受正常运输的转动，并符合 GB/T4857.10.

### 7. EMC and ERP STANDARDS/电磁兼容性与 ERP 标准:

#### 7.1 EMI STANDARDS/EMI 标准:

7.1.1 The power supply shall meet the radiated and conducted emission requirements for EN55015:2013 CLASSB, FCC PART 15 CLASS B.

电源供应器要符合辐射及传导要求，满足 EN55015:2013 CLASSB, FCC PART 15 CLASS B.

7.1.2 EN61000-2-3 : 2014 Limits for harmonic current emissions (equipment input current  $\leq 16$  A per phase)

7.1.3 EN61000-3-3 : 2013 Limitation of voltage changes, voltage fluctuation and flicker in public low-voltage supply systems

#### 7.2 EMS STANDARDS/EMS 标准:

The power supply shall meet the following EMS standards/电源供应器要满足下列 EMS 标准

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V1
PRODUCT NO./产品编号	R00059	PAGE/页码	第 5 页共 10 页

## ELECTRICAL PERFORMANCE 电气性能

7.2.1 EN61547 : 2009 Equipment for general lighting purposes - EMC immunity requirements

7.2.2 EN61000-4-2:2009 Electrostatic Discharge (ESD)

7.2.3 EN61000-4-4:2004 Electrical Fast Transient/Burst (EFT)

7.2.4 EN61000-4-5:2006 Surge Immunity: Lighting Surge Test Requirement

### 7.3 ERP requirement/ ERP 要求:

7.3.1 According with Eu1194/2012/符合欧洲 ERP Eu1194/2012

7.3.2 Turn on time less than 0.5Second at 230V/50Hz input/开机时间小于 0.5S,在输入 230V/50Hz.

7.3.3 No load power consumption less than 0.5W at 230V/50Hz input/空载功耗小于 0.5W, 在 230V/50Hz 输入.

7.3.4 THD<\_\_\_\_%(at 230V/50Hz)/总谐波<\_\_\_\_%(在 230V/50Hz)(No requirement)

## 8. RELIABILITY AND QUALITY CONTROL/可靠性及品质控制:

### 8.1 COMPONENT DERATING/元件温度要求 (S) :

Semiconductor junction temperatures shall not exceed the manufacturer's maximum thermal rating.

半导体结温不允许超过其制造商要求的最大温度值。

### 8.2 BURN-IN/烘烤:

The power supply shall undergo a minimum of 4 hours Burn-in test under full load at 35~40°C.

电源应在 35~40°C 和满载条件下烘烤 4 小时。

## 9. INSULATION RESISTANCE/绝缘阻抗:

INPUT TO OUPUT: 10MΩ. (500VDC)/输入对输出: 最小 10MΩ (500VDC)

## 10. LEAKAGE CURRENT/漏电流:

The leakage current shall be less than .25mA for Class II when the power supply is operated maximum input voltage and maximum load.

当电源供应器操作在最大输入和最大负载的情况下, 其漏电流应小于 0.25mA, 满足 Class II 等级。

## 11. MAJOR MEASURE EQUIPMENT/主要测试设备:

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V1
PRODUCT NO./产品编号	R00059	PAGE/页码	第 6 页共 10 页

## ELECTRICAL PERFORMANCE 电气性能

- A. AC SOURCE/交流输入电源: AFC-500W
- B. POWER METER/电源功率计: EVERFINE.PF 9811
- C. ELECTRONIC LOAD/电子负载: PRODIGIF 3312F
- D. OSCILLOSCOPE/存储示波器: TEK.DPO 3012
- E. DIGITAL MULTIMETER/数字式万用表: FLUKE 17B+
- F. DC POWER/直流输入电源: RXN-3010D
- G. HI-POT TESTER/耐压测试仪: REK-RK2671A
- H. TEMPERATURE TESTER/温度测试仪: AGILENT 34970A
- I. CONS.T/H SIMULATOR/恒温恒湿仪: WAY- HWS-408

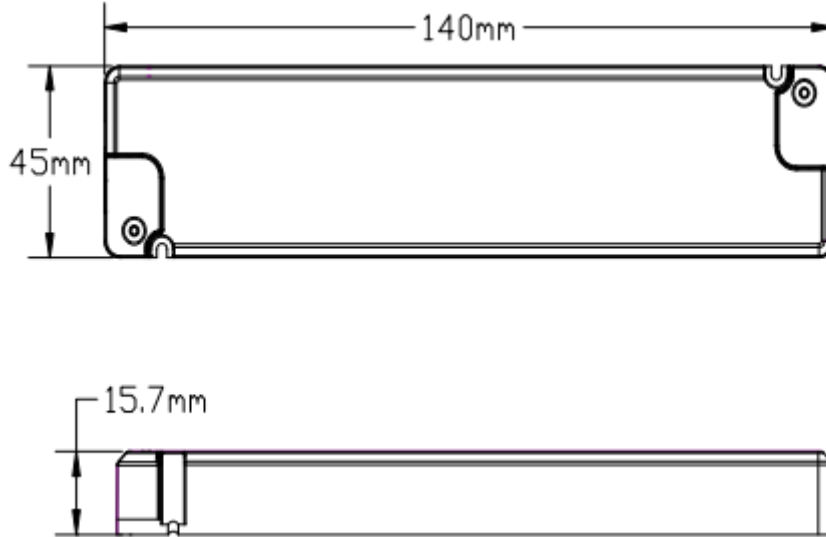
ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V1
PRODUCT NO./产品编号	R00059	PAGE/页码	第 7 页共 10 页

## Marking Drawing 铭牌图

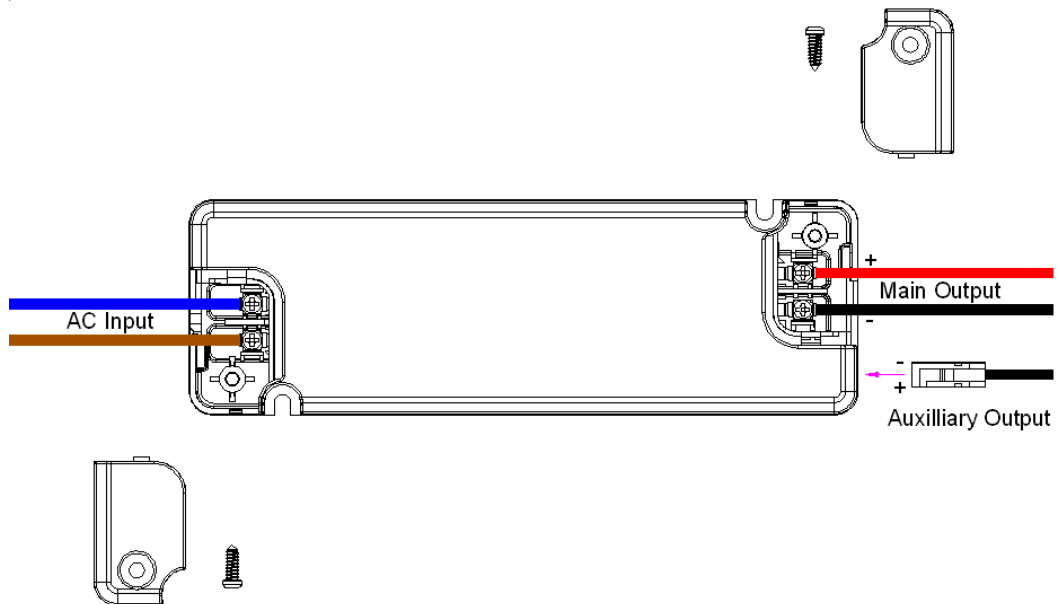
### 12. Mach.outline Drawing 外观示意图

#### 12.1 Physical (Drawing)/外观尺寸

Physical Size: 外观尺寸: L:140\*W:45\*H:15.7(mm)



#### 12.2 Cord/连接线



NO 序号	Symbol 符号	Pin Definition 引脚定义
-------	-----------	---------------------

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V0
PRODUCT NO./产品编号	R00059	PAGE/页码	第 8 页共 10 页



ELECTRICAL PERFORMANCE 电气性能

①	Input	L	Live Line/火线进线端
		N	Neutral Line/零线进线端
②	Output	+	Main output positive/输出正极 进线端
		-	Main output negative/输出负极 进线端
③	Output	+	Auxiliary output positive/辅助 电源正极进线端
		-	Auxiliary output negative 辅助 电源负极进线端

13. I/O Marking Drawing/铭牌示意图



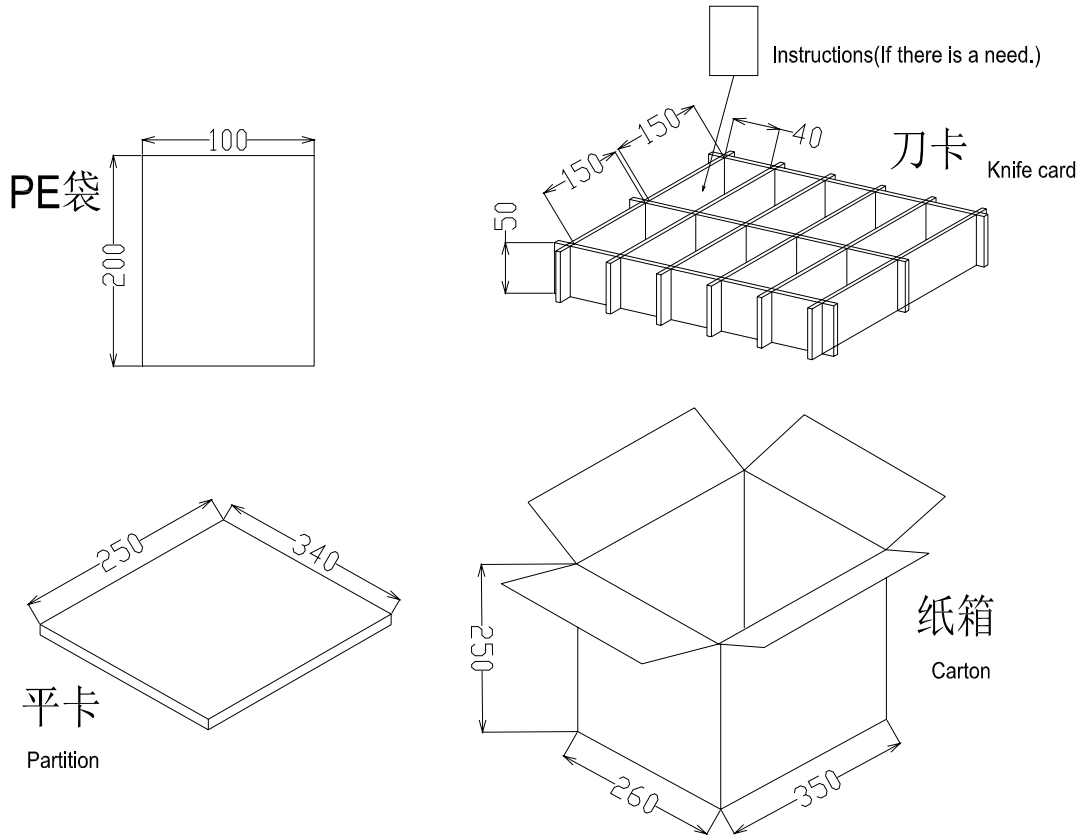
Remark:As the label space is limited, the manufacturer's information is reflected in the manual.

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V1
PRODUCT NO./产品编号	R00059	PAGE/页码	第 9 页共 10 页

# PACKAGE DRAWING 包装图

## 14. Package Drawing/包装示意图

单位 Unit : mm



单箱总数 Total QTY: 80 PCS

外箱尺寸 SIZE: L/W/H=350/260/250

## 15. RoHS 环保说明

The power supply accord with RoHS requirements.

本电源符合 RoHS 相关要求

ORIG.DATE/初始日期	2016.12.8	EDITION/版本	V0
PRODUCT NO./产品编号	R00059	PAGE/页码	第 10 页共 10 页