

深圳拓邦股份有限公司

SHENZHEN TOPBAND CO.,LTD

客户承认书

SPECIFICATION FOR APPROVAL

CUSTOMER/客户: 深圳市思坎普科技有限公司

CUSTOMER P. N. /客户物料号: _____

PRODUCTMODEL. /产品型号: _____

PRODUCT NO. /产品编号: _____

SAMPLE DATE/送样日期: 2014-12-17

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.

Add: Topband Industrial Park,Tangtou,Shiyan,Bao'an District,Shenzhen,China
中国深圳市宝安区石岩镇塘头拓邦工业园

TEL: +86 (0755)27651888

Ext: 8250

FAX: +86(0755)29042501

P.C: 518108

Prepared By: 拟 制:	Checked By: 审 核:	Approved By: 批 准:
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Revision History/变更履历表

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1. Scope/简述

The document detail the electrical, mechanical and environmental specifications of a 60W constant current LED driver. The LED driver shall meet the RoHS requirement.

此份资料详细描述了一款 60W LED 恒流驱动电源的电气性能, 结构性能及环境等要求. 此款电源符合 RoHS 要求.

Description/描述:

- ☒ LED driver (With AL Case)/带铝壳型 ☐ LED driver (With Plastic Case)/带胶壳型
☐ Open Frame/开放式结构 ☐ Others/其他

2. Input Characteristics/输入特性

2.1. Input Voltage & Frequency/输入电压与频率

The range of input voltage is from 90 to 305Vac single phase/输入电压范围: 单相从 90 到 305Vac.

Items/项目	Minimum/最小	Nominal/额定值	Maximum/最大
Input Voltage/输入电压	90Vac	100-277Vac	305Vac
Input Frequency/输入频率	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current/输入交流电流

0. 65Amax. @ 100-277Vac input & full load.

2.3. Inrush Current (cold start) /浪涌电流(冷启动)

25Amax. @ 230Vac input, 25°C.

2.4. Power Factor/功率因素

Typical value is 0.97@120Vac input & full load /额定输入 120V& 负载;

Typical value is 0.91@277Vac input & full load /额定输入 277V& 负载.

2.5. Efficiency/效率

Typical value is 84% @120Vac input & full load

在输入 100Vac 与满载时典型效率 84%;

Typical value is 86% @220Vac input & full load

在输入 220Vac 与满载时典型效率 86%.

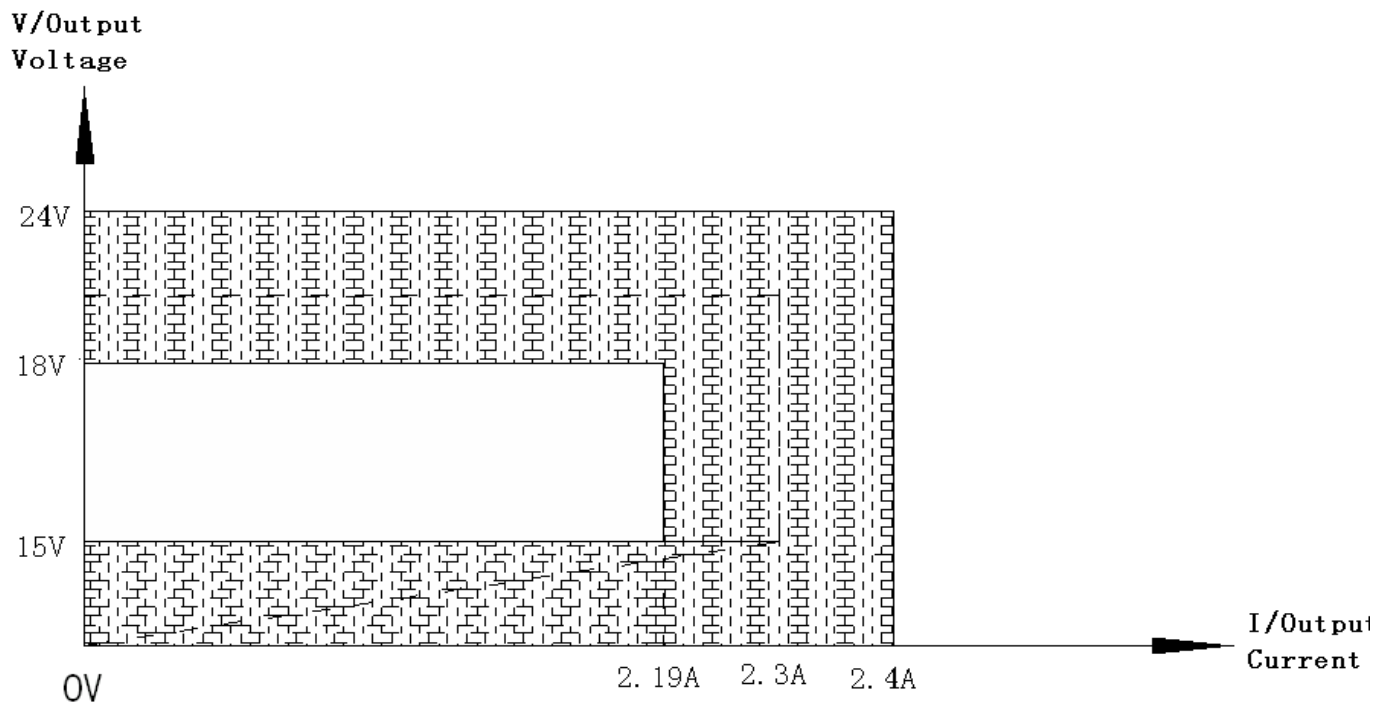
3. Output Characteristics/输出特性

3.1. Static Output Characteristics <Vo & R_N<3500mVp-p >/静态输出

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (test under the condition of rated input and rated output)

纹波与噪声: 量测时示波器选用 20MHz 带宽限制, 输出端要并联一颗 0.1uF 的陶瓷电容和一颗 10uF 的电解电容. (在额定输入及输出的条件下检测)

3.2. Voltage/Current Curve/恒压/恒流控制曲线



Constant Current Output Characteristics /恒流输出特性	Min. / 最小值	Typ. / 典型值	Max. / 最大值
Output Current Range/输出电流范围	2.19A	2.3A	2.4A
Output Voltage Range/输出电压范围	18V	21	24V

3.3. Turn - on Delay Time/开机延迟时间

3.0S max. @ 100-277Vac input & full load.

3.4. Hold-up Time/关机保持时间

12mS min. @ full load & 115Vac/60Hz input turn off at worst case /在最差情况关机

20mS min. @ Full load & 230Vac/50Hz input turn off at worst case/在最差情况关机

3.5. Output voltage Overshoot /输出电压过冲

5% max. When the power on /电源开机最大过冲不超过 5%.

4. Protection Requirements/保护要求

4.1. Short Circuit Protection/短路保护

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed.

当输出短路时, 产品输入功率降低且不会损伤, 当短路情况解除后, 产品将会自动恢复正常

4.2. Over Voltage Protection/过压保护

When the output voltage is over (2.6-4) V_{out} , the product will shutdown and enter protection status, the driver will re-start and work normally if the fault condition was eliminated.

当输出电压超过 (2.6-4) V_{out} 时, 产品将会关机进入保护状态, 当故障解除后, 产品将会重启正常工作

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5. Environment Requirements/环境要求

5.1. Operating Temperature and Relative Humidity/操作温/相对湿度要求

-25°C to +60°C

10%RH to 90%RH

5.2. Storage Temperature and Relative Humidity/存储温/相对湿度要求

-40°C to +85°C

5% to 100%RH non-condensing at Sea level shall be low 10,000 feet/低于 10,000 英尺.

5.3. Vibration/振动

10 to 300Hz sweep at a constant acceleration of 1.0G (Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.

扫描频率: 10 to 300Hz, 加速度: 1.0G (位移: 3.5mm), X, Y, Z 三垂直坐标轴向各振动 1 小时.

5.4. Waterproof grade/防水等级: IP65

6. Reliability Requirements/可靠性要求

6.1. Burn-in/煲机

The power supply shall under go a minimum of 4 Hours burn-in test at 40°C ± 5°C under full load condition

产品至少要在 40°C ± 5°C 的环境及满载条件下煲机 4 小时

6.2. LIFE Time Qualification/寿命时间估算

The Life Time shall be at least 50,000hours at 25°C, Full load and nominal input condition

寿命时间: 在 25°C 环境及额定输入与满载条件下, 至少 50,000 小时.

7. Safety & EMI/EMS Standards/安规及 EMI/EMS 标准

7.1. Safety Category/安规种类

Safety Category	Country	Standard
CUL	USA & Canada	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 No. 223-M91 Class 2
CE	Europe	EN 61347-1, EN 61347-2-13
CQC	China	GB 19510.1, GB 19510.14, GB 7000.1

7.2. EMS Standards/EMS 标准

EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge (ESD): 8kV air discharge, 4kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 1.0 kV, line to earth 2.5 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test

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EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

7.3. EMI Standards/EMI 标准

EMI Standards	Country	Notes
EN 55015	Europe	Conducted emission Test & Radiated emission Test with 6 dB margin
FCC	USA	FCC Part 15 class B, ANSI C63.4:2009

8. Safety Standards/安规主要测试项目

8.1. Dielectric Strength(Hi-pot)/介电耐压强度(高压)

Primary to Secondary: 3750Vac 10mAMax / 60second(3second for production)/ Finished goods

初级对次级: 3750Vac /10mAMax / 60 秒(生产时高压测试时间: 3 秒) <成品>

Primary to Earth: 1500Vac 10mAMax / 60second(3second for production)

初级对地: 1500Vac /10mAMax / 60 秒(生产时高压测试时间: 3 秒)

Secondary to Earth: 500Vac 10mAMax / 60second(3second for production)

次级对地: 500Vac /10mAMax / 60 秒(生产时高压测试时间: 3 秒)

8.2. Grounded Resistance/接地电阻

< 0.1 Ω , 25A, 1Minute

8.3. Leakage Current/泄漏电流

0.75mAMax. at input 277Vac/50Hz.

8.4. Insulation Resistance/绝缘阻抗

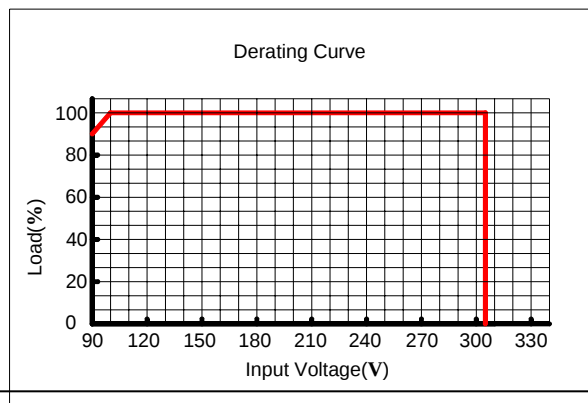
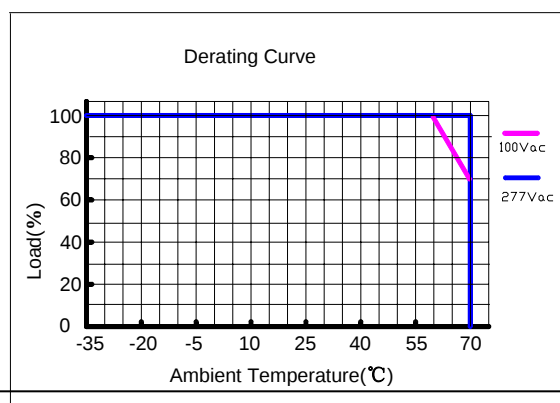
The IR shall be at least 100M Ω when apply 500Vdc between primary and secondary.

在初级与次级间加 500Vdc 进行绝缘测试, 最小绝缘阻抗 100M Ω .

The IR shall be at least 100M Ω when apply 500Vdc between primary and Earth.

在初级与地间加500Vdc进行绝缘测试, 最小绝缘阻抗100M Ω .

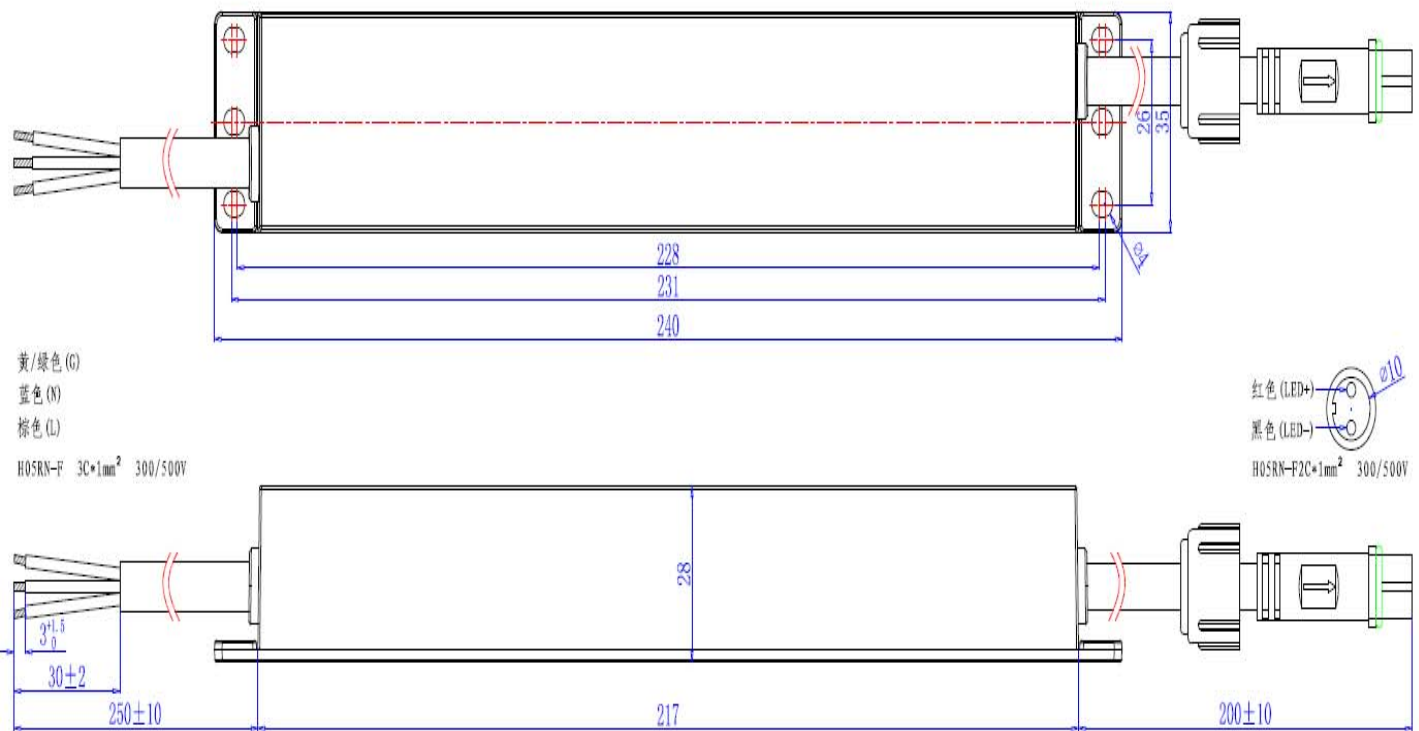
9. Derating Curve/降额曲线



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10. Mach. Outline Drawing/外观示意图



公差: 未标识公差统一±0.5 的公差, 标识
的以标识公/ Tolerance: ±0.5mm for
unidentified part, identified refer to
the fact

1. Unit/单位: mm

Dimensions/尺寸	Millimeters(Inches) /毫米 (英寸)
Length/长	240(9.45)
Width/宽	38(1.496)
Height/高	28(1.105)

Wire/线	Specification/规格
AC Input/输入	1. H05RN-F 3C*1mm² 白色圆线, 内 芯蓝、棕、黄绿色; 2. 额定电压: 300/500V; VDE 认证
DC Output/输出	1. H05RN-F 2C*1mm² 白色圆线, 内 芯红、黑色; 2. 额定电压: 300/500V;
Dimming/调光	/

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11. I/O Marking Drawing/铭牌示意

客供物料