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SPECIFICATION

FSP150-NZKCH-700

R&D	CHECK	APPROVED	REV.
歐陽志軍	張娟	左全平	V1.1

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1. GENERAL/产品概述

This specification describes the performance characteristics of a 150W, 700mA constant current output power supply for LED lighting.

The model features in:

- ultra-high efficiency: 94% typical @230Vac, full load
- high power factor: 0.96 min. @ 230Vac, full load
- with all-round protections (OVP, OTP , SCP, Open Circuit Protection)
- comply with EN61347 Safety Regulations

本规格书详细描述了一款 150W, 700mA 恒流型 LED 照明用驱动电源的具体规格。

该款产品的特性包括：

- 超高效率：230Vac 满载时效率典型值为 94%
- 高功率因数：230Vac 满载时大于 0.96
- 带过压保护、过温保护、短路保护和开路保护
- 符合 EN61347 安规标准

☐ SMPS Adaptor (Wall-Mount)/插墙式适配器 ☐ SMPS Adaptor (Desktop)/桌面型适配器

☐ Open Frame/开放式结构 ■ SMPS Unit (With Case)/带铝壳型

☐ Others/其他

2. ELECTRICAL PERFORMANCE/电气性能

** Unless noted, the characteristics are specified at 25^{o}C, 230Vac input, and full load output.*

如无其它说明，以下数据为环境温度 25^{o}C, 230Vac 输入，满载输出时的规格。

2.1. Input Characteristics/输入特性

2.1.1. Input Voltage and Frequency/输入电压与频率

The range of input voltage is from 160Vac to 305Vac single phase.

输入电压范围：从 160Vac 到 305Vac, 单相输入。

Input/输入	Min.	Typ.	Max.
Input Voltage/输入电压	160Vac	230Vac	305Vac
Input Frequency/输入频率	47Hz	50Hz	63Hz

2.1.2. Input Current /输入电流

0.9 A max. @ 230Vac input & full load/满载。

2.1.3. AC Line Inrush Current (25°C Cold Start)/浪涌电流（25°C 冷启动）

No component shall be damaged and the input fuse shall not blow when the power supply is powered on.

开机瞬间任何零件以及保险丝不得烧毁。

2.1.4. Power Factor/功率因数

Items/项目	Min.	Typ.	Test Condition/测试条件
Power Factor/功率因数	0.96	0.98	230Vac, 25°C, Full Load/满载

2.1.5. Efficiency/效率

Items/项目	Min.	Typ.	Test Condition/测试条件
High Line Efficiency/高压段效率	92%	94%	230Vac, 25°C, Full Load/满载

2.1.6. AC Line Brownout/输入欠压

The power supply shall not damage when the input is below 160Vac.

在输入交流电压低于 160Vac 情况下，电源不会损坏。

2.2. Output Characteristics/输出特性

2.2.1. Static Output Characteristics/静态输出特性

Items/项目	Min.	Typ.	Max.
Output Current Regulation Band/输出电流调整范围	665mA	700mA	735mA
Output Voltage/输出电压	159V	-	214V
Output Power/输出功率	105.7W	-	150W
Output Voltage at No Load/空载输出电压	-	-	260V

2.2.2. Ripple & Noise/纹波与噪声

Current Ripple: ±5% Io max., with typical LED load at 25°C，measured at 20MHz bandwidth.

电流纹波：25°C，典型 LED 负载下，使用 20MHz 带宽测量时，不超过±5% Io。

2.2.3. Output Current Precision /输出电流精度

±5%

2.2.4. Turn-on Delay Time/开机延迟时间

2s max. @ 230Vac, 50Hz, full load/满载

2.2.5. Rise Time/上升时间

150ms max. @ 25°C, full Load/满载

2.2.6. Output Overshoot/Undershoot/输出过冲/欠冲

20% max. at power on or power off at 25°C / 25°C 电源开关机时

2.3. Protection Circuits/保护电路

2.3.1. Over Voltage Protection/过压保护

The output voltage that triggers over voltage protection should be no higher than 320Vdc. The power supply shall enter auto-recovery mode during over voltage protection, and return to normal operation after the fault condition is removed.

过压保护时输出电压不应高于 320Vdc。故障时电源应进入自动恢复保护模式。当故障排除后，电源应能恢复工作。

2.3.2. Over Temperature Protection/过温保护

When the power supply enters overheating protection condition, no components should be damaged. The power supply shall enter auto-recovery mode during over temperature protection, and return to normal operation after the fault condition is removed.

当电源进入过热保护状态时，无零件损坏。故障时电源应进入自动恢复保护模式。当故障排除后，电源应能恢复工作。

2.3.3. Short Circuit Protection/短路保护

When output is being shorted, no components should be damaged. The power supply shall enter auto-recovery mode during short circuit protection, and return to normal operation after the fault condition is removed.

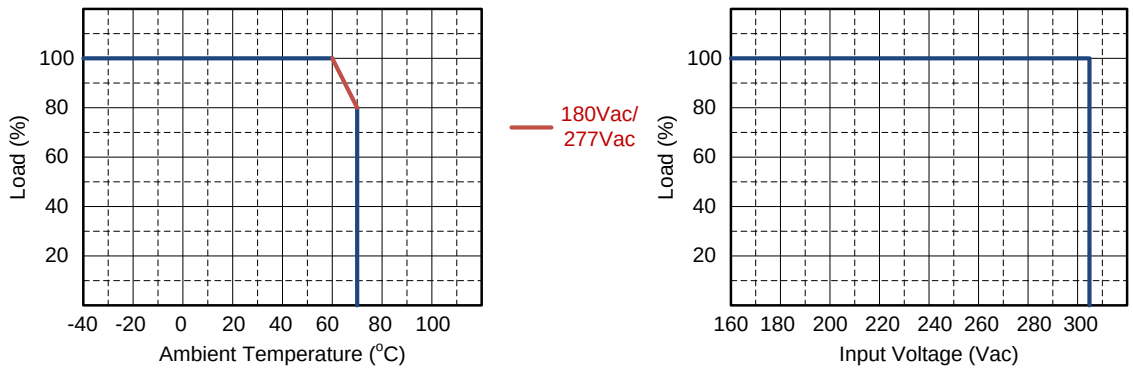
当电源输出发生短路时，无零件损坏。故障时电源应进入自动恢复保护模式。当故障排除后，电源应能恢复工作。

2.3.4. Open Circuit Protection/开路保护

When output is being opened, no components should be damaged. The power supply shall enter auto-recovery mode during open circuit protection, and return to normal operation after the fault condition is removed.

当电源输出发生开路时，无零件损坏。故障时电源应进入自动恢复保护模式。当故障排除后，电源应能恢复工作。

3. Derating Curve/降额曲线



4. MECHANICAL/机构特性

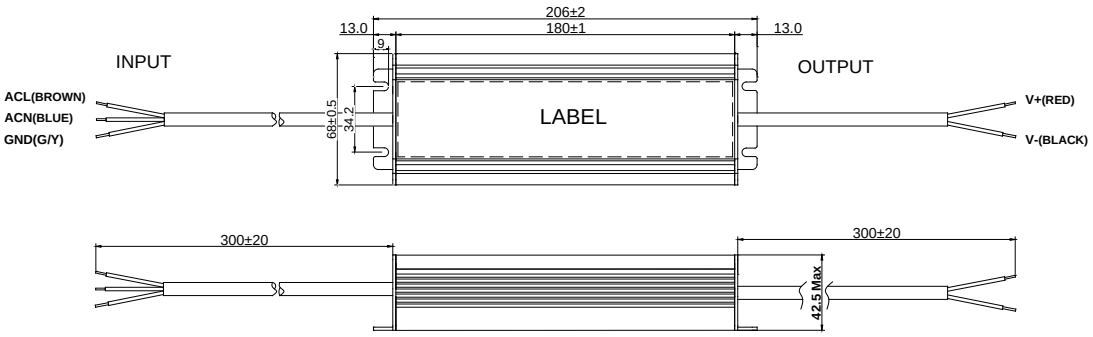
4.1. Dimension and Outline Drawing/尺寸与外观示意图

The outside dimension is 180x68x42.5mm (LxWxH) without bracket and 206x68x42.5mm with bracket.

不含支架外型尺寸为 180x68x42.5 毫米（长 X 宽 X 高），含支架尺寸为 206x68x42.5mm 毫米。

Input /输入： 3-Pin Wire 300mm (L : Brown/棕，N: Blue/蓝，GND: Green & Yellow/绿滚黄)

Output /输出：2-Pin Wire 300mm (V+: Red/红，V-: Black/黑)



5. ENVIRONMENTAL/环境适应性要求

The power supply shall operate normally, and sustain no damage as a result of the environmental conditions listed in this section.

电源在本节所描述的环境下可以正常工作并不会损坏。

5.1. Operating Temperature and Relative Humidity/操作温度与湿度要求

-40 °C to +70 °C (+60 °C to +70 °C with power derating/降额使用)

10% RH to 100% RH

Note: The power can work without performance requirements between -40°C and -35°C.

备注：环温在-35°C以下时，电源能工作但不作电性要求。

5.2. Storage Temperature and Relative Humidity/存储温度与湿度要求

-40 °C to +85 °C

10% RH to 100% RH

5.3. Waterproof Grade/防水等级

IP67

5.4. MTBF/Life Time/平均无故障运行时间/产品寿命

The MTBF shall be at least 200,000 hours at 25°C, 230Vac input, and full load output.

平均无故障运行时间：至少200,000小时, 25 °C环境，230Vac输入与满载条件下。

The life time shall be at least 50,000 hours at 50 °C, 230Vac input, and full load output.

产品寿命：至少50,000小时, 50 °C环境，230Vac输入与满载条件下。

5.5. Burn-in/煲机

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

电源样品至少要在40 °C ± 5 °C的环境及满载条件下煲机4小时。

5.6. Vibration/振动

10 to 300Hz sweep at a constant acceleration of 1.0G (Breadth: 3.5mm) for 1 hour 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。

6. REGULATORY/符合标准

6.1. Agency Requirements/安规认证

A) Meet CE EN61347-1, EN61347-2-13,

B) Primary to Secondary: 3750Vac 10mA max./60 seconds (3 seconds for production)
一次侧对二次侧：3750Vac 10mA max./60 秒(生产时高压测试时间：3 秒)

C) Primary to Earth: 1875Vac 10mA max./60 seconds (3 seconds for production)
一次侧对地：1875Vac 10mA max./60 秒(生产时高压测试时间：3 秒)

D) Secondary to Earth: 1450Vac 10mA max./60 seconds (3 seconds for production)
二次侧对地： 1450Vac 10mA max./60 秒(生产时高压测试时间：3 秒)

E) Leakage Current/漏电流
0.75mA max. @ 277Vac / 50Hz

F) Grounded Resistance/接地电阻
0.1Ω max. @ 25A, 1 minute/在通过 25A 电流 1 分钟后，一次侧地对外壳的最大电阻值为 0.1 欧姆

G) Insulation Resistance/绝缘阻抗
100MΩ min. @ primary to secondary with 500Vdc test voltage/在一次侧与二次侧间加500Vdc测试

6.2. Electromagnetic Compatibility/电磁兼容

6.2.1. EMI/EMC Requirements

A) EMI:
Comply with EN55015 Class B.

B) IMMUNITY:

EN61000-3-2: Harmonic Current Emission.

EN61000-3-3: Voltage Fluctuations and Flicker.

EN61000-4-2: ESD 8kV Air Discharge, 4kV Contact Discharge, Criteria A.

EN61000-4-3: Radio-Frequency Electromagnetic Field Susceptibility Test-Rs Level 3, Criteria A.

EN61000-4-4: Electrical Fast Transient/Burst-EFT 4KV, Criteria A.

EN61000-4-5: Surge Immunity Test, AC Power Line: Line to Line 3kV; Line to Earth 6kV, Criteria B.

EN61000-4-6: Conducted Radio Frequency Disturbance Test-CS Level 3, Criteria A.

EN61000-4-8: Power Frequency Magnetic Field Test 3A/m, Criteria A.

EN61000-4-11: Voltage Dips, Criteria B.

EN61547: Electromagnetic Immunity Requirements Applies to Lighting Equipments.

7. REVISION LOG/修改记录

This section contains the release history of this document:

本部分包含本文档的修改历史记录：

Date	Revision	Remarks		
		Section	From	To
20130503	V1.0	First Released		
20130828	V1.1	Insulation Resistance	50MΩ min	100MΩ min
20130828	V1.1	Surge Immunity Test	Line to Earth 4kV	Line to Earth 6kV