

DEMASLED

FAP-10



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1. 简述/SCOPE

本规格书定义了 **24W 内置电源**的电气性能、结构性能及环境适应性等要求。此款电源符合 RoHS 要求。

This document defines the electrical, mechanical and environmental specifications of **a 24W LED DRIVER**. The AC/DC adapter shall meet the RoHS requirements.

2. 输入特性/INPUT CHARACTERISTICS

2.1 输入电压/Input Voltage

额定电压/Rated Voltage: **220~240Vac**

调整范围/Variation Range: **220-240Vac**

2.2 输入频率/Input Frequency

额定频率/Rated Frequency: 50/60Hz

调整频率/Variation Frequency: 47-63Hz

2.3 输入电流/Input Current:

在输入交流电压范围内及满载输出时，最大输入交流电流 **0.2 A**.

0.2 A max At any input voltage and full output load.

2.4 浪涌电流/Inrush Current(Cold-Start):

输出为额定负载，环境温度为 25℃, 输入 **220Vac** 冷态起机的最大浪涌电流小于 **50A**

50 Max. Cold start at **220Vac** input, with rated load and 25 ambient.

2.5 空载输入功率/No-load input power

空载输出, 在 **230Vac** 输入时, 输入功率 **1.0W** Max.

When the no-load output, **230Vac** input, the input power **1.0W** Max.

2.6 功率因数 / power factor

0.9 min. @ 额定输入 **230Vac** & 75%--100% 负载 / input **230Vac** & 75%--100% of full load

3. 输出特性/OUTPUT CHARACTERISTICS

3.1 输出功率/Power output

电压 Voltage	最小负载 Min. Load	额定负载 Rated. Load	峰值负载 Peak load	输出功率 Output power
12.0Vdc	0.01A	2.0A		24W

3.2 负载特性，调整率/Combined Load/Line Regulation

电压 Voltage	最小负载 Min. Load	额定负载 Rated. Load	电压范围 Voltage range	负载调整率 Load Regulation
12.0Vdc	0.01A	2.0A	11.4-12.6Vdc	±5%

3.3 纹波和噪音/Ripple and Noise:

测试条件：在额定输入电压及额定负载条件下，示波器带宽设置为 20MHz，连接到产品输出端，同时输出端并联一个 47uF 的电解电容和一个 0.1uF 的瓷片电容。

Under nominal input voltage and nominal load, Parallel with a E-CAP 47uF and C-CAP 0.1uF at the terminal of output rail , measure by Oscilloscope with 20MHz Band width.

电压 Voltage	最大纹波/最大噪音 Ripple and Noise(Max.)
<u>12Vdc</u>	<u>2000mV</u> p-p

3.4 启动延时时间/Turn on delay time:

在 220Vac 输入和最大负载输出时，最大启动时间为 3S.

3Second Max. at 220Vac input and Max.output load.

3.5 上升时间/Rise time:

在 220Vac 输入和最大负载输出时，最大上升时间为 10mS

10mS Max. at 220Vac input and Max. output load.

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3.6 保持时间/Hold up time

在 **220Vac** 输入和最大负载输出时, 最小保持时间为 5mS.
5mS Min. at 220Vac input and Max. output Load.

3.7 输出电压过冲及欠冲/Output voltage overshoot and undershot:

10% max 电源开关机时/power on or off

3.8 恒压/恒流控制曲线/Voltage&Current curve:

3.9 效率/Efficiency:

在 230Vac 输入和最大负载输出时, 最小 **82%**
82% Min. at 230Vac input and Max.output Load.

3.9 能效/ Energy-Efficiency:

☒ V ☐ VI

☐ MEPS ☐ DOE ☒ ERP ☐ Nrcan ☐ CEC

4. 保护功能/PROTECTION REQUIREMENT

4.1 短路保护/Short circuit protection:

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, 产品将自动回复正常。
The input power shall decrease when output rail short,the power supply shall no damage,and shall be self-recoery when the fault condition is removed.

4.2 过流保护/Over Current Protection:

输出电流调整到 **6.0A MAX** 时,自动保护。
When adjusted to **6.0A MAX** output current. Automatic Protection.

4.3 过压保护/Over Voltage Protection

当输出电压超过额定电压的 **150%**时, 电源将保护, 故障排除或重新起机后能恢复正常工作。
When the output voltage is over 150% rated voltage,the power supply will be protected,and will work normally when fault is removed or power on again.

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5. 环境要求/ENVIRONMENTAL REQUIREMENT

5.1 工作温度、湿度/Operating Temperature and relative humidity

0℃ to +40℃

10%RH to 100%RH

5.2 储存温度、湿度/Storage Temperature and relative humidity

-40℃ to +80℃

5%RH to 100%RH

5.3 正弦振动/Vibration:

(Non-operating, with packing) Reference to IEC 68-2-6

频率/Frequency: 5-500 Hz

扫描循环/Sweep: 2 hours, each axis (X, Y, Z)

加速度/Acceleration: 0.6G (5~50 Hz, peak - peak),

1.5G (50~500 Hz, peak - peak)

位移/Displacement: 0.4 mm (5~50 Hz)

5.4 跌落试验/Dropping Packed

一个角，三个菱，六个面.

1 corner, 3 edges, and 6 surfaces

高度: 76cm / Height: 76cm

5.5 适用海拔高度，大气条件/Applicable altitude, Atmospheric conditions

■ 不大于 2KM / Be equal or less than 2KM □ 2KM 以上 / 2KM above

6. 安全及电磁兼容要求/SAFETY AND EMC REQUIREMENT

6.1 安全标准/Safety standard

□ IEC/EN60950 □ IEC/EN61558 ■ IEC/EN61347-2-13

□ IEC/EN60065 □ UL 1310

6.2 介电耐压强度/DIELECTRIC STRENGTH Hi-Pot:

□ 初级对次级 3000Vac 10mA 60s. (生产时高压测试时间为 2 秒)

Primary to secondary, 3000Vac(or 4242Vdc) 10mA 60S (2 second for production)

■ 初级对次级 3750Vac 10mA 60s. (生产时高压测试时间为 2 秒)

Primary to secondary, 3750Vac(or 4242Vdc) 10mA 60S (2 second for production)

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6.3 绝缘阻抗/Insulation resistance:

在初次级加 500Vdc 进行绝缘测试，最小绝缘阻抗为 50MΩ
50MΩ min., add 500Vdc from primary to secondary.

6.4 漏电流/leakage current:

在 220-240Vac 输入时，最大漏电流为 0.25mA
0.25mA max. at 220-240Vac

6.5 EMI 标准/EMI standard:

☐ CISPR15 ☐ FCC PART15 ☒ EN55015 ☐ EN55022 ☐ EN55014

6.6 EMS 标准/EMS standard:

EN61000-3-2	Harmonic current emissions, class C
EN61000-3-3	Voltage fluctuations & flicker
EN61000-4-2	Electrostatic Discharge (ESD): 8KV air discharge, 4KV contact discharge
EN61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN61000-4-5	Surge Immunity Test: AC Power Line: line to line 1kV, line to earth 2kV
EN61000-4-8	Power Frequency Magnetic Field Test
EN61000-4-11	Voltage Dips

7. 防水等级/WATERPROOF

☒ IP20 ☐ IP44 ☐ IP68
☒ Indoor ☐ Outdoor

8. 可靠性要求/RELIABILITY REQUIREMENT

8.1 煲机/Burn-in

产品至少要在 40±5℃ 的环境和满载条件下煲机 2 小时.

The power supply will be burn-in 2 hours at least, under 40±5℃ and full load.

8.2 平均无故障运行时间/MTBF

在 25℃，额定输入和满载条件下，至少 50000 hours. 参考标准：MIL-HDBK-217F

The MTBF shall be 50000 hours at 25℃, full load and rated input condition.

Reference standard: MIL-HDBK-217F

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9. 结构参数/MECHANICAL REQUIREMENT

9.1 外壳/ Case:

外壳尺寸/Case size: L130x W43x H21mm;

外壳颜色/Case color: ☐ 黑色/Black ☒ 白色/White;

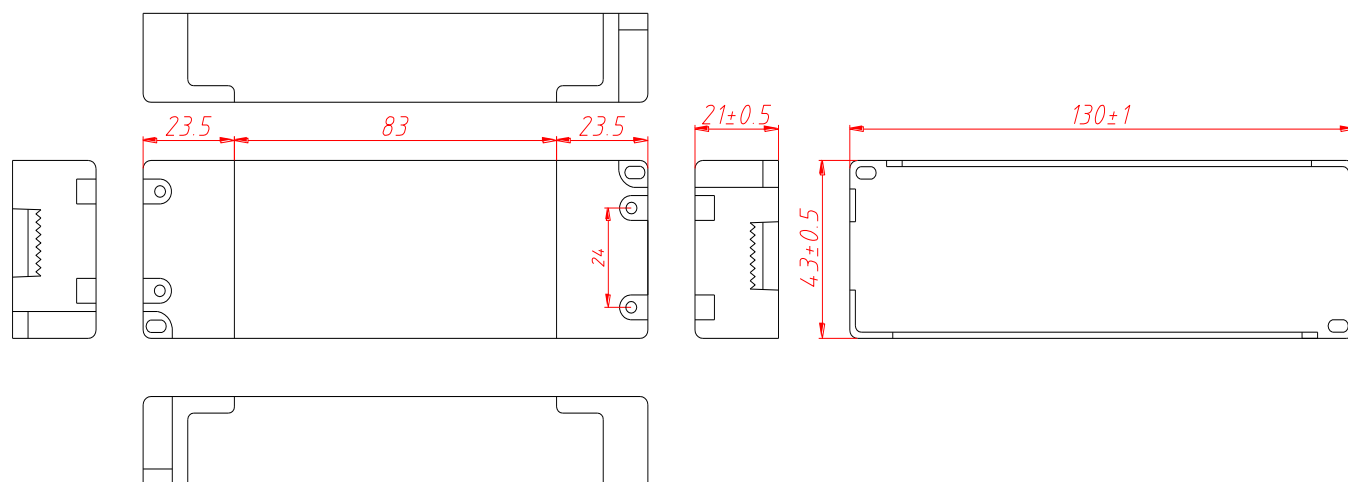
9.2 输入线/Input cord

Terminal 端子

9.3 输出线/Output cord

Terminal 端子

10. 外型尺寸图/OUTLINE DIMENSION



OUTPUT POLARITY/输出极性: ☐ 内正外负/CENTER +

☐ 条纹/棱纹/红线/白线 正/STRIPED/RIBBED/RED/WHITE +

☐ 其他 见铭板

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