



深圳市莱福德光电有限公司
SHENZHEN LEDFRIEND OPTOELECTRONICS CO.,LTD.

产品承认书

SPECIFICATION FOR APPROVAL

客户名称 Customer : _____

客户品名 Customer No: _____

产品名称 Description: LED Driver

产品型号 Model No: LF-GTU022YG 系列

规格 Specifications: AC100-277V DC27-42V 180-520mA

版本号 Version: V1.2

产品生产商 Vender: 深圳市莱福德光电有限公司

客户确认 Customer Approval

检查 TESTED BY	审核 CHECKED BY	批准 APPROVED BY

莱福德确认 Ledfriend Approval

拟定 WORKED BY	审核 CHECKED BY	批准 APPROVED BY
段梦娇	余进	刘健强



深圳市莱福德光电有限公司

SHENZHEN LEDFRIEND OPTOELECTRONICS CO LTD

深圳市光明新区光明街道新美工业区莱真工业厂区厂房B栋

Building B, Laizhen Industrial Factory Area of Xinmei Industrial Park,

Guangming Street, Guangming New District, Shenzhen

Web : <http://www.ledfriend.com> TEL:0755-23407789

变更履历表 E.C.LIST

版本Rev	变更内容描述Description of Change	工程Engineer	日期Date
1.0	初次发行Original Release	段梦娇	2014.03.28
1.1	在第二项产品图片下面增加安全提示说明In the second item product pictures below to increase safety tips instructions	段梦娇	2014.5.29
1.2	更改5.1项系列参数表里的测试数据5.1 the test data of a series of parameter list changes	段梦娇	2014.7.23

目录 Table Of Contents

一. 描述 Description	4
二. 产品图片 Product picture	4
三. 输入特性 Input Characteristics.....	4
四. 负载特性 Load Characteristics.....	4
五. 产品电性能综合描述 Electrical Performance	5
5.1. 系列参数表 Parameter Table	5
5.2. 产品曲线特性图 Typical Characteristics Graph.....	6
六. 保护要求 Protection Requirements	7
七. 环境要求 Environment Requirements	7
八. 可靠性要求 Reliability Requirements	8
九. 认证标准 Certification Standards.....	8
十. 外观尺寸 Outline Drawing	8
10.1. 重量 Weight.....	8
10.2. 尺寸示意图 Size	8
10.3. 接线示意图 Wiring diagram	9
十一. 包装图 Package Drawing.....	9
11.1. 内包装 Inner Package.....	9
11.2. 外包装盒 Outside Package.....	10

一. 描述 Description

- 1.1 本产品适用于内置式 LED 日光灯、平面灯 Application: internal LED drivers for LED tubes and panel lights.
- 1.2 高效率、高PF的LED日光灯隔离电源 Features: high efficiency, high PF isolated driver for LED tube lights.

二. 产品图片 Product picture



图片仅供参考，请以实物为准 The picture is for reference only, refer to the actual product.

安全提示说明: Safety tips instructions:

- ① 建议客户在灯具供电回路中安装过欠压保护与浪涌保护装置，以确保用电安全。
- ① In the lighting power supply circuit, it is recommended that the customer install over-under-voltage protection and surge protection device, to ensure the safety of electricity.
- ② 灯具内装配电源使用的PC罩、外壳、堵头等套件必须满足UL94-V0及以上防火等级。
- ② The PC cover, enclosure, plug suite which the driver(installed inside the Lamps and lanterns) uses must meet UL94V-0 fire rating.

三. 输入特性 Input Characteristics

名称 Name	最小值 Min	额定值 Rated	最大值 Max	单位 Units	备注 Remark
输入电压 Input Voltage	90	110/220/277	305	Vac	
输入频率 Input Frequency	47	50/60	63	HZ	
输入电流 Input Current	--	--	0.35	A	90Vac 满载 90Vac Full load
浪涌电流(冷启动) Inrush Current(cold start)	--	--	60	A	230Vac 满载 230Vac Full load

四. 负载特性 Load Characteristics

名称 Name	最小值 Min	最大值 Max	单位 Units	备注 Remark
开机延迟时间 Start-up Delay Time	--	≤1.0	S	110Vac 满载 110Vac Full load
	--	≤0.5	S	220Vac 满载 220Vac Full load
输入线性调整率 Input Line Regulation	--	≤5	%	42Vdc 满载 42Vdc Full load

	--	≤5	%	27Vdc 轻载 27Vdc Light load
输出线性调整率 Output Line Regulation	--	≤5	%	110Vac 满载 110Vac Full load
	--	≤5	%	220Vac 满载 220Vac Full load
空载功耗 No-load power consumption	--	2	W	110Vac 输入 110Vac Input
	--	2	W	220Vac 输入 220Vac Input
温度漂移 Temperature Drift	--	≤10	%	110Vac 满载 110Vac Full load
	--	≤10	%	220Vac 满载 220Vac Full load

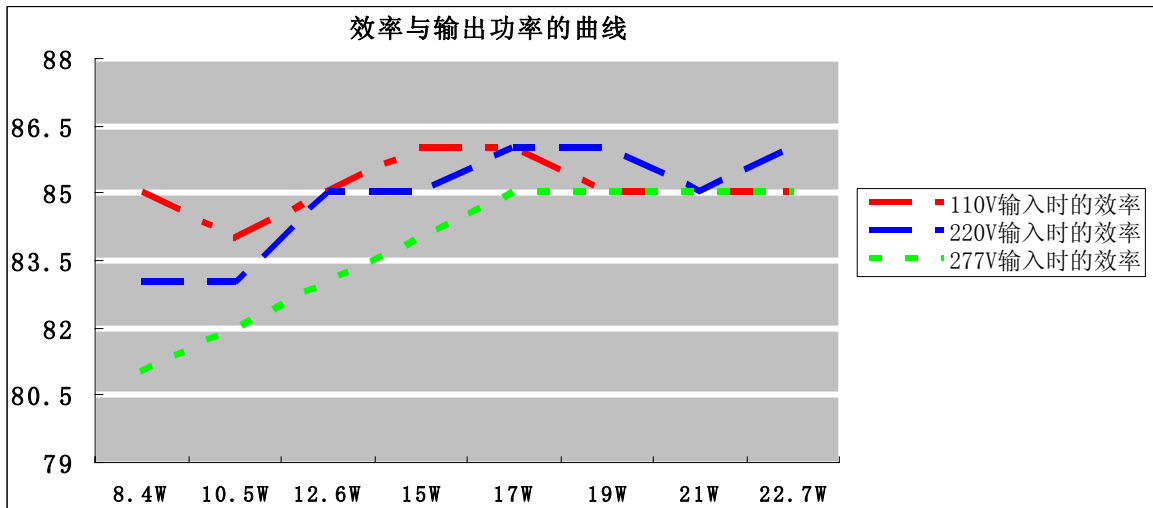
五. 产品电性能综合描述 Electrical Performance

5.1. 系列参数表 Parameter Table

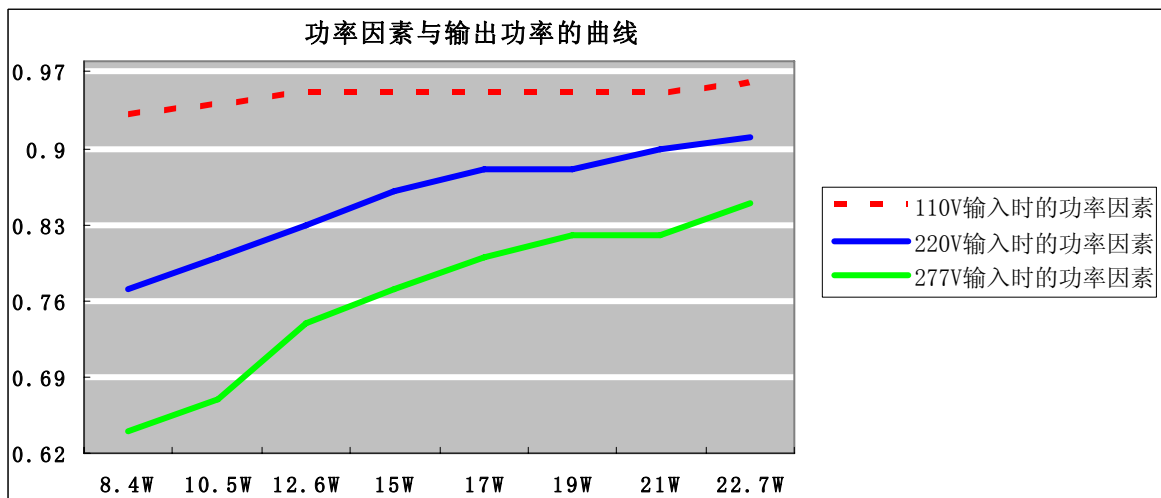
输出电压范围	输出电流范围	输出功率	输入电压	功率因数	效率	谐波电流	输出纹波电压	电流精度
Output Voltage range	Output Current range	Output power	Input voltage	Power factor	Efficiency	harmonic Current	Output ripple voltage	Current accuracy
(单位: Vdc)	(单位: mA)	(单位: W)	(单位: Vac)	(单位:100%)	(单位: %)	(单位: %)	(单位: Vac)	
27-42	540≥I≥500	22.7W	110	0.96	85	15	3	±5%
			220	0.91	86	20	3	±5%
			277	0.85	85	26	3	±5%
27-42	500>I≥450	21W	110	0.95	85	13	3	±5%
			220	0.9	85	19	3	±5%
			277	0.82	85	30	3	±5%
27-42	450>I≥400	19W	110	0.95	85	15	3	±5%
			220	0.88	86	20	3	±5%
			277	0.82	85	23	3	±5%
27-42	400>I≥350	17W	110	0.95	86	15	3	±5%
			220	0.88	86	19	3	±5%
			277	0.8	85	22	3	±5%
27-42	350>I≥300	15W	110	0.95	86	15	3	±5%
			220	0.86	85	21	3	±5%
			277	0.77	84	24	3	±5%
27-42	300>I≥250	12.6W	110	0.95	85	13	3	±5%
			220	0.83	85	20	3	±5%
			277	0.74	83	28	3	±5%
27-42	250>I≥200	10.5W	110	0.94	84	14	3	±7%
			220	0.8	83	22	3	±7%
			277	0.67	82	30	3	±7%

27-42	200>I≥180	8.4W	110	0.93	85	15	3	±7%
			220	0.77	83	24	3	±7%
			277	0.64	81	30	3	±7%

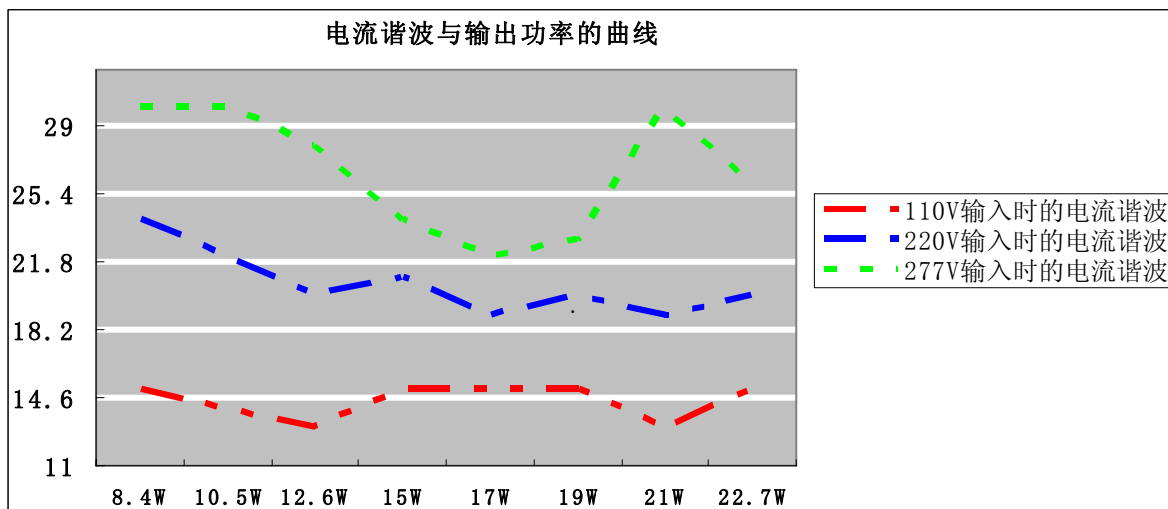
5.2. 产品曲线特性图 Typical Characteristics Graph



Efficiency vs. Output Power



Power Factor vs. Output Power



Current Harmonics vs. Output Power

备注Remark:

1.以上系列参数均是在满载条件下测试的结果。The parameters above are obtained under the testing condition of full load.

2.以上系列参数均是代表本产品为标准品上演变的参数，如果客户对电性能有特别的要求可以申请重新调试、研发。The parameters table above includes all variants based on standard model, if special parameters are required, R&D will do evaluation first before deciding modification.

3.以上数据均在环境温度25℃，湿度50%条件下进行。The data above are obtained under ambient temperature of 25℃ and 50% RH.

六. 保护要求 Protection Requirements

功能保护项 Protections	功能指标 Specs	备注Remark
开路保护 Output open circuit protection	输出电压≤50Vdc Output voltage≤50Vdc	
短路保护 Output short circuit protection	短路输出时的输入功率≤5W Short circuit output when the input power ≤5W	打嗝,可自恢复 Burp. Automatic Recovery

七. 环境要求 Environment Requirements

名称 Name	最小值 Min	额定值 Rated	最大值 Max	单位 Units	备注 Remark
工作温度 Operating Temperature	-40	25	70	℃	
工作湿度 Operating Humidity	10	--	80	%RH	
储存温度 Storage Temperature	-30	25	45	℃	
大气压力 Pressure	86	--	106	KPa	

八. 可靠性要求 Reliability Requirements

产品100%要在至少40°C ± 5°C的环境及满载条件下老化4小时ALL(100%)of our products should be gotten burn-in test under the condition of at least 40°C ± 5°C in full load for 4 hours.

九. 认证标准 Certification Standards

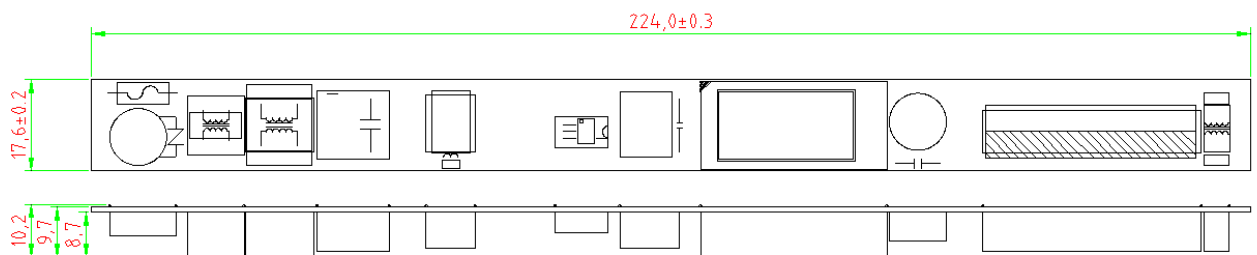
分类 Category	项目Item	参考指标Reference index	备注 Remark
安规规范 Safety conformity	耐压 Hi-pot test	具体操作按照 UL8750/IEC61347-1/ IEC61347-2-13	本产品符合Input对Output耐压4KV, 漏电流≤5mA的要求, 具体操作按照GB7000.1 The withstand of input-output is 4KV, leakage current ≤5mA, the specific operation is according to GB7000.1.
	绝缘阻抗 Insulation resistance		本产品符合Input对Output绝缘阻抗100MΩ/500Vdc的要求 The insulation impedance of Input-.Output > 100MΩ@500Vdc
EMC规范 EMC conformity	电磁干扰 EMI	本产品符合 EN55015/EN61000-3-3/FCC part15标准 EN55015/EN61000-3-3/FCC part15 standards	雷击可过1KV 1 KV surge protection
	电磁抗干扰 EMS	本产品符合EN61547标准 EN61547 standards	

十. 外观尺寸 Outline Drawing

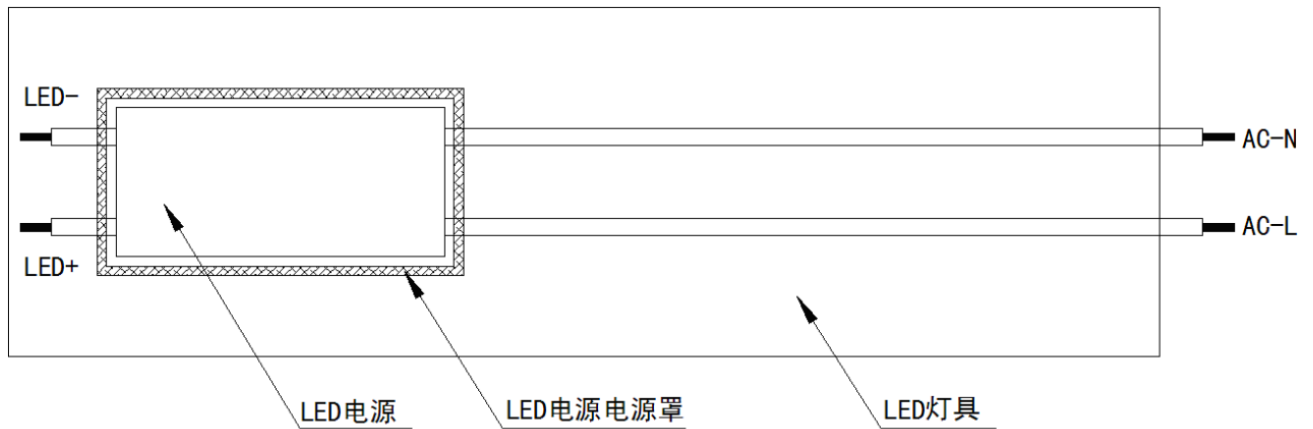
10.1. 重量 Weight

Weight: 47g/pcs

10.2. 尺寸示意图 Size



10.3. 接线示意图 Wiring diagram

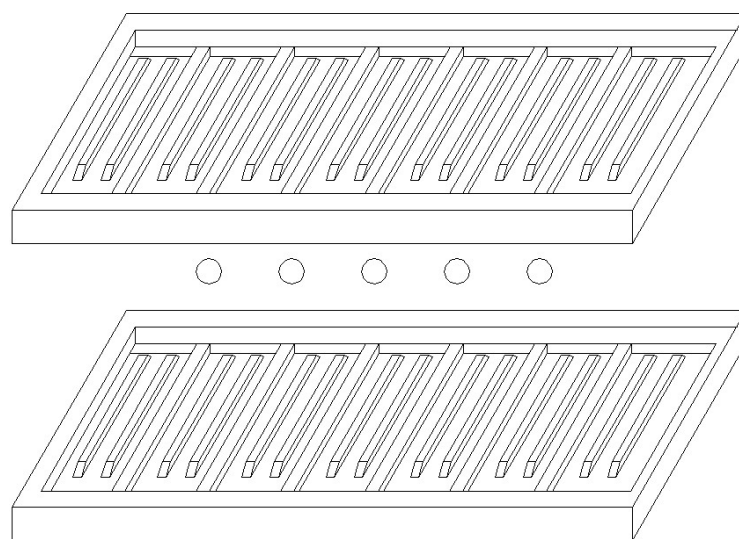


接线注意事项：装配时输入和输出线不要绕着LED电源走线，或者在电源罩内走线，会影响LED电源接整灯EMC比较差。（上图为接整灯对EMC最佳示意图）

Remark of wire connection way: please do NOT let the input or output wires to go above (or below, or along) the LED driver; and wires going across the LED driver inside the PC cover is not advised. These two connection ways will result in poor radiated emission testing result (EMC). (The diagram chart above is desirable connection way recommended by LEDFRIEND engineers.)

十一. 包装图 Package Drawing

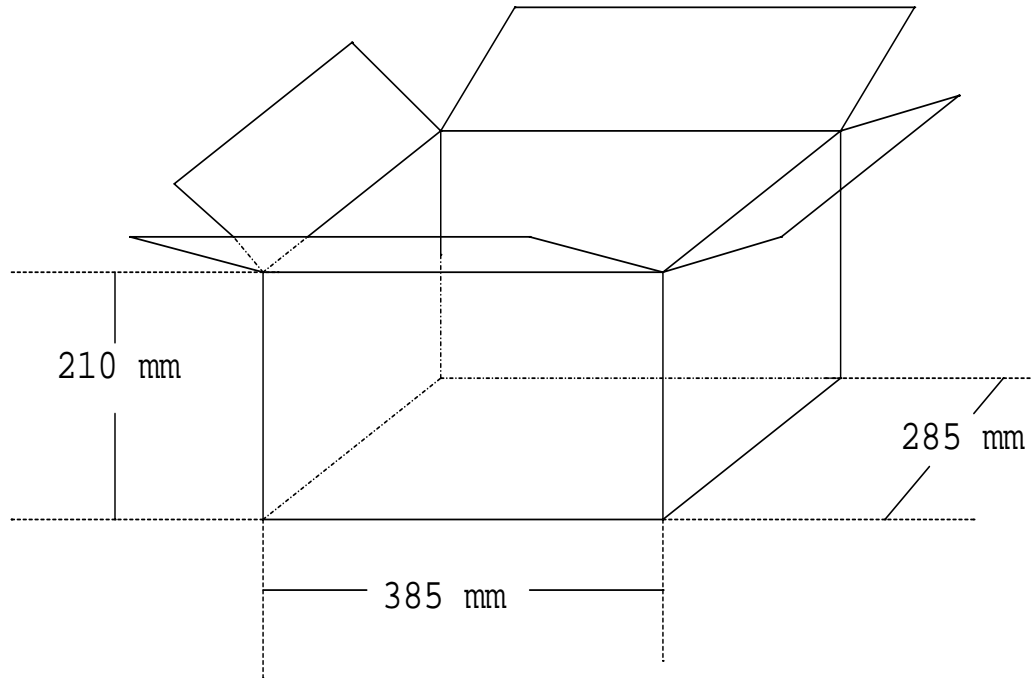
11.1. 内包装 Inner Package



每个吸塑盘放置21个LF-GTU022YG

There are 21 pieces of LF-GTU022YG on each blister packing plate.

11.2. 外包装箱 Outside Package



每个包装箱内放置10层吸塑盘，总计210个产品。

Each packaging box has Ten tiers and there are 210pcs LF-GTU022YG (21pcs x10 tiers) in total.
).