



10W LED Driver Using UL66C



Subject

UL66C 10W/30mA LED Driver Demo Board Manual

特点:

- 外围电路极其简单，无需变压器及电感器件
 - 具有过温保护及自恢复功能
 - 可将元件直接布于LED灯板上，方便自动化生产
 - 方案元件极少，超低成本
 - 无频闪
 - 具有良好的EMI性能
-

Revision History

Revise Date	Version	Reason/Issue
2017/6/26	A	First Issue



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1. LED Driver Demo Board Specification

1.1. Input Characteristics

- AC input voltage rating 200Vac~240Vac
- AC input voltage range 180Vac ~ 264Vac
- AC input frequency range 47Hz ~ 63Hz

1.2. Output Characteristics

- Typical Output voltage 257V@220Vac
- Typical output current 30mA@220Vac

1.3. Performance Specifications

- Maximum input power 10W
- Efficiency 86.9%@220Vac

1.4. Environment

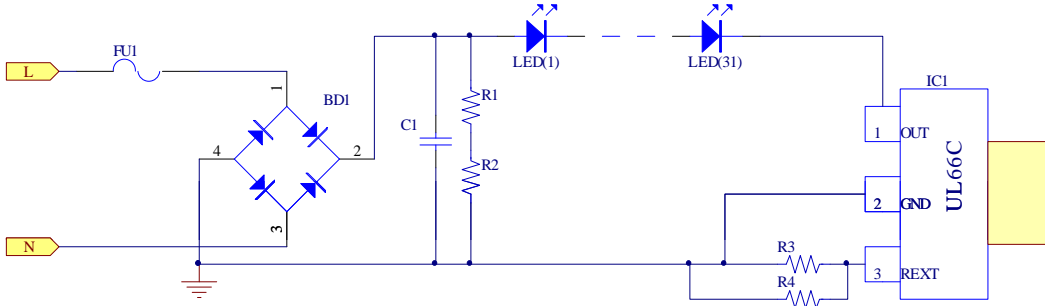
- Operation Temperature 0°C to 40 °C
- Operation Humidity 20% to 90% R.H
- Storage Temperature -40°C to 60 °C
- Storage Humidity 0% to 90% R.H



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2. LED Demo Board Information

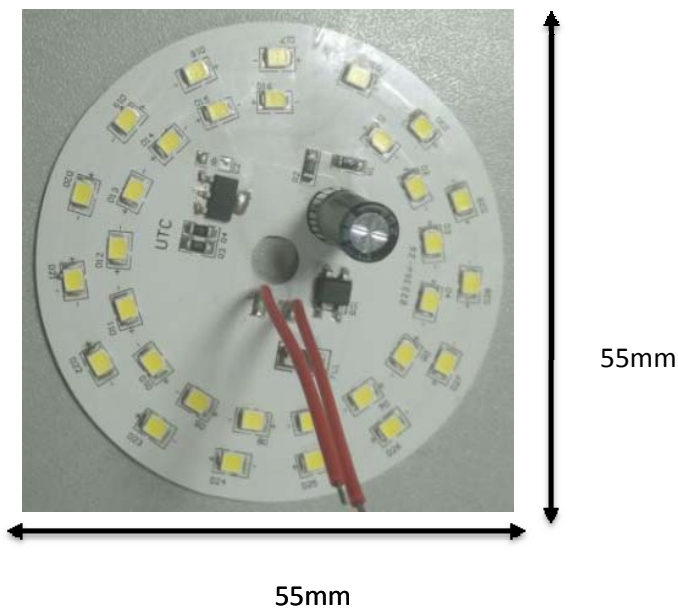
2.1. Schematic



2.2. BOM

No.	Position	Description	Quantity
1	FU1	1A/250V,2410贴片保险	1
2	BD1	UTC MB6S	1
3	C1	6.8uF,400V	1
4	R1,R2	560K,5%,1206	2
5	R3,R4	43R,1%,1206	2
6	LED1-LED16	9V LED灯珠 ,L2835	31
7	IC1	UTC UL66C,SOT-223	1

2.3. Demo Board Snapshot



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3. Performance Evaluation

This document presented here is to describe the power module performance.
The measuring data are tested at the board end, unless otherwise specified.

The Summarized Result :

Item	Test result
1. Input Characteristics	
Efficiency (@220Vac)	86.9%@220Vac
2. Output characteristics	
Maximum Output Power	7.7W
Output Typical Voltage	257V@220Vac
Output Typical Current	30mA@220Vac

Test Equipment:

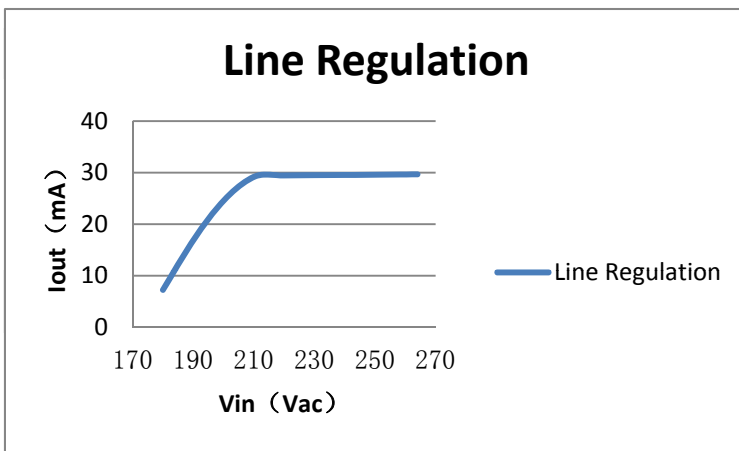
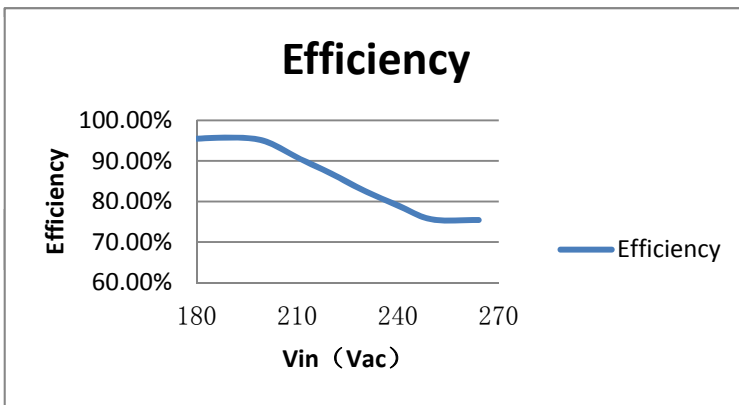
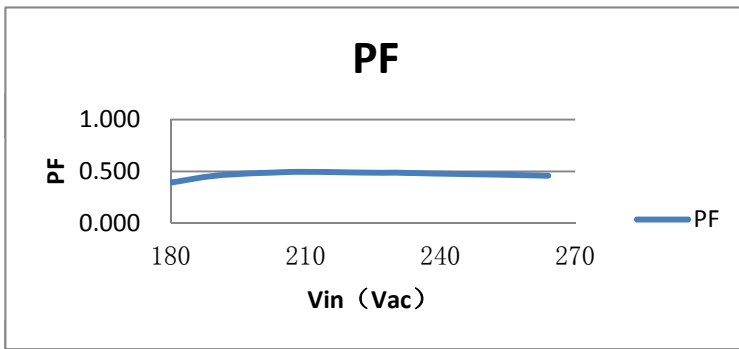
Item	Vendor	Model No:
1.AC Source	GW INSTEK	APS-9501
2.Digital Power meter	DECTECH	3330S
3. LED Load		
4.Digital Oscilloscope	Tektronics	DPO3012
5.Multi-meter		

3.1 Test data

VIN(Vac)	Pin(W)	PF	Io(mA)	Vo(V)	EFF
180	1.86	0.392	7.25	245	95.50%
190	4.44	0.459	16.87	252	95.75%
200	6.61	0.484	24.52	256	94.96%
210	8.26	0.496	29.19	257	90.82%
220	8.71	0.489	29.45	257	86.90%
230	9.18	0.487	29.51	257	82.62%
240	9.61	0.477	29.54	257	79.00%
250	10.06	0.471	29.59	257	75.59%
264	10.11	0.458	29.67	257	75.42%



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3.2 温升

测试条件：置于无对流的恒温箱中，点亮30min，Vin=220Vac

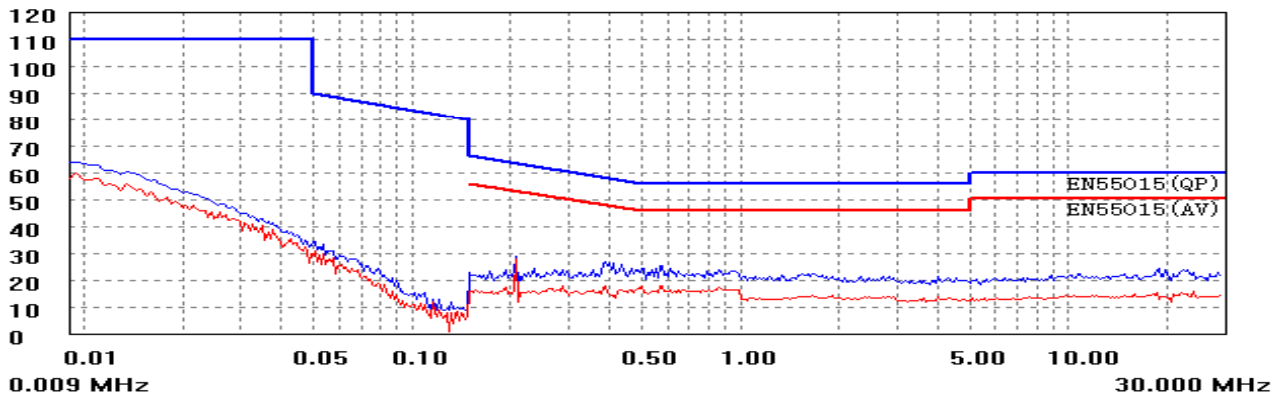
IC温度(°C)	光源温度(°C)	环境温度(°C)	输出电流(mA)
83	78	25	29.45



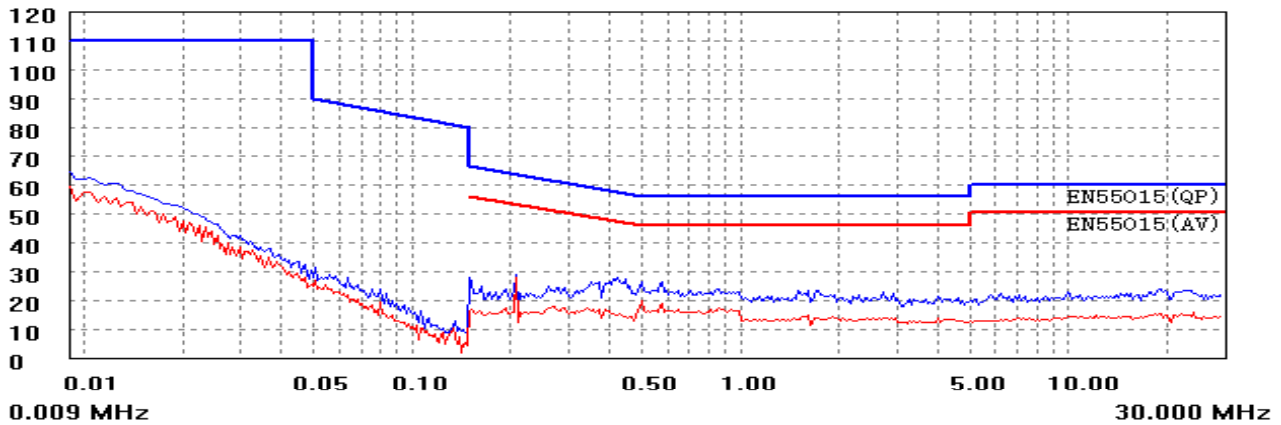
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4 EMI

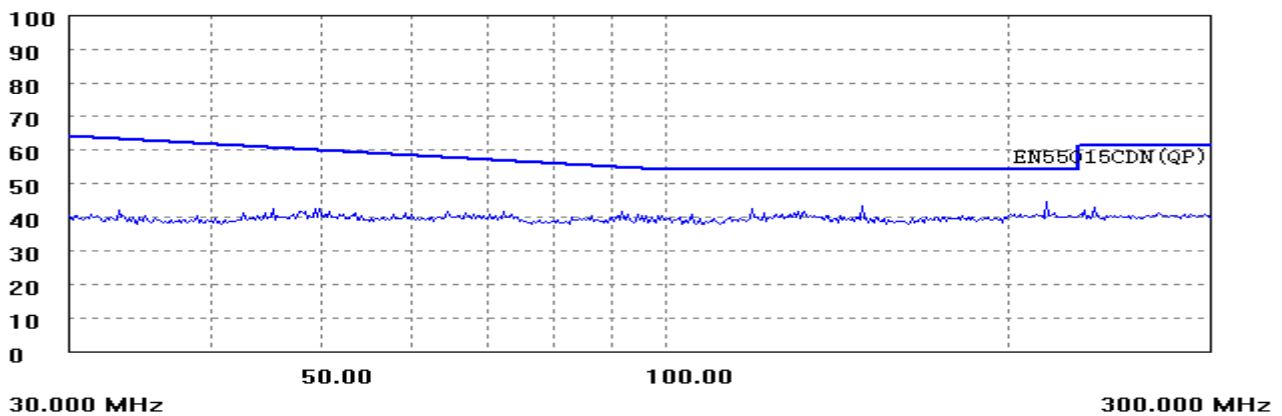
Live Conduction@220Vac/50Hz, full load



Neutral Conduction@220Vac/50Hz, full load



Vertical Radiated@220Vac/50Hz, full load



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