



40W LED Driver Using UL66XG



Subject

UL66XG 40W / 120mA LED Driver Demo Board Manual

特点:

- 较高的恒流精度： $\pm 5\%$
- 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，实现自动化生产
- 具有良好的EMI性能

Revision History

Revise Date	Version	Reason/Issue
2018/1/8	A	First Issue



40W LED Driver Using UL66XG

Contents Index		Page
1	LED Demo Board Specification	3
1.1.	Input Characteristics	3
1.2.	Output Characteristics	3
1.3.	Performance Specifications	3
1.4.	Environment	3
2	LED Demo Board Information	4
2.1.	Schematic	4
2.2.	BOM	4
2.3.	Demo Board Snapshot	4
3	Performance Evaluation	5
3.1	Test data	
4	EMI	6



40W LED Driver Using UL66XG

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 ~ 53Hz

1.2. Output Characteristics

- Output voltage 262V@220Vac
- Typical output current 120mA

1.3. Performance Specifications

- Maximum output power 40W
- Efficiency 88% @220Vac
- line voltage regulation $\pm 2\%$ @210~240Vac

1.4. Environment

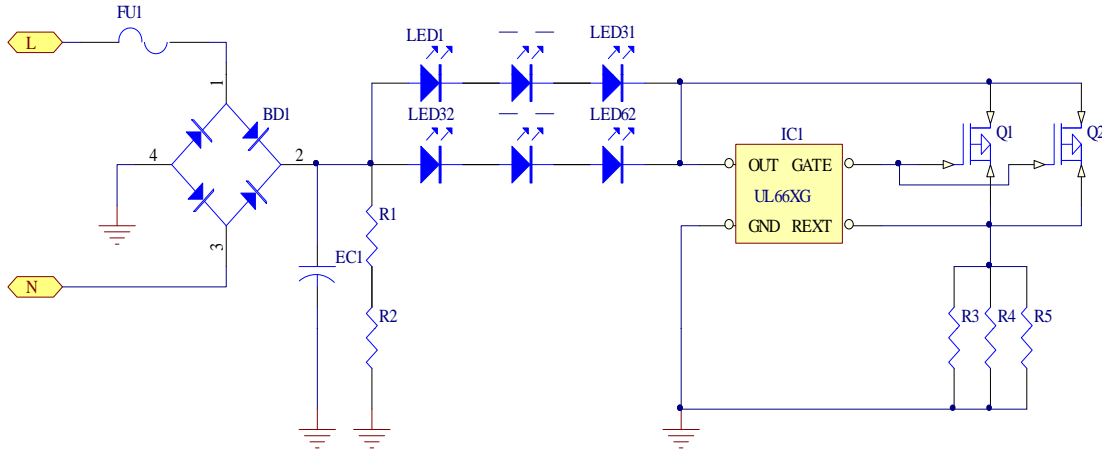
- Operation Temperature 0°C to 40 °C
- Operation Humidity 20% to 90% R.H
- Storage Temperature -40°C to 60 °C
- Storage Humidity 0% to 90% R.H



40W LED Driver Using UL66XG

2. LED Demo Board Information

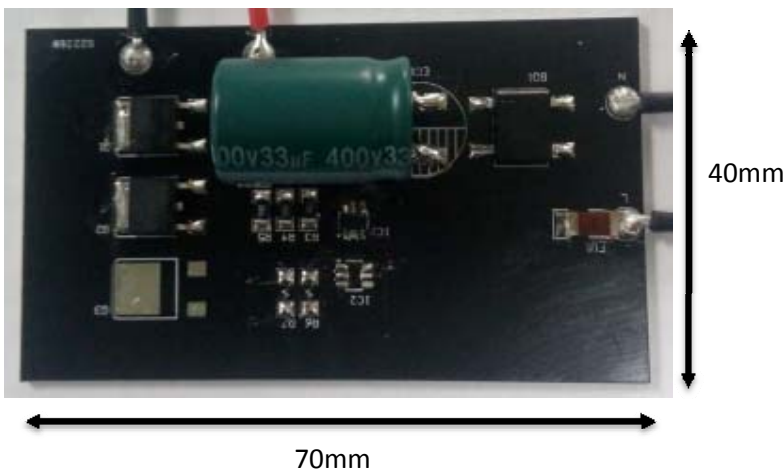
2.1. Schematic



2.2. BOM

No.	Position	Description	Quantity
1	FU1	1A/250V,2410贴片保险	1
2	DB1	DB107	1
3	EC1	33uF,400V	1
4	R1, R2	560KR,1%,1206	2
5	R3, R4, R5	15R,1%,1206	3
6	IC1	UTC UL66XG,SOT-25	1
7	Q1, Q2	UTC 1N60L,TO-252	2
8	LED1-LED62	LED 9V 3528	62

2.3. Demo Board Snapshot



40W LED Driver Using UL66XG

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)	88.00%
2. Output characteristics	
Maximum Output Power	40W
Output Typical Voltage	262V@220Vac
Output Typical Current	120mA@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

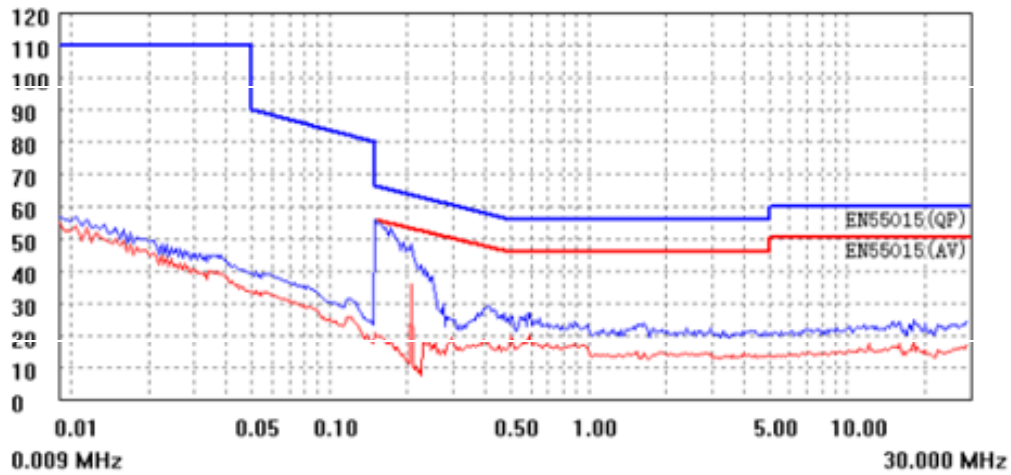
VIN(Vac)	Pin (W)	PF	Io(mA)	Vo(V)	EFF
176	2.03	0.363	7.97	242.4	95.16%
180	4.59	0.413	17.95	245.9	96.17%
190	15.23	0.475	57.76	253.4	96.09%
200	25.92	0.498	95.15	258.9	95.05%
210	33.52	0.507	118.02	262.0	92.23%
220	35.65	0.507	119.77	262.0	88.01%
230	37.41	0.509	119.76	261.8	83.82%
240	39.11	0.510	119.76	261.7	80.14%
250	40.87	0.514	119.75	261.7	76.66%
264	43.27	0.525	119.73	261.6	72.38%



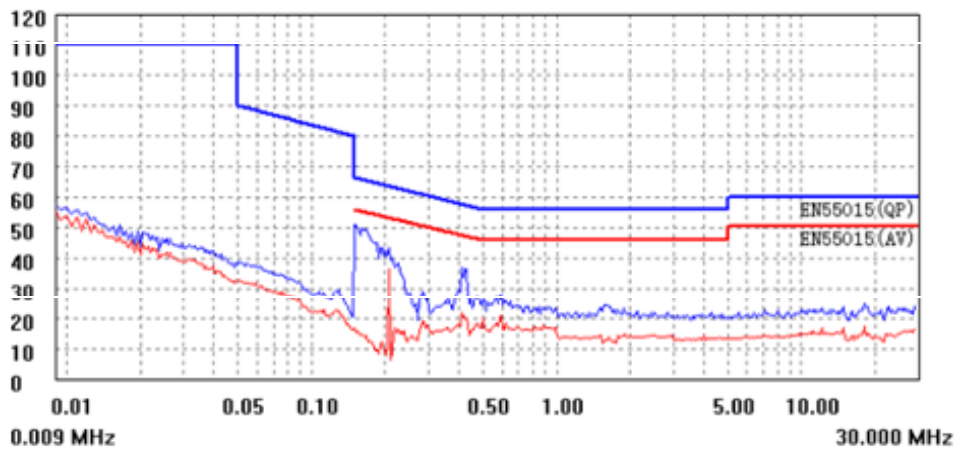
40W LED Driver Using UL66XG

4 EMI

Live Conduction@220Vac/50Hz, full load



Netural Conduction@220Vac/50Hz, full load



Vertical Radiated@220Vac/50Hz, full load

