






<p><b>TEST REPORT</b>  <b>IEC 62560</b>  <b>Self-Ballasted LED-Lamp</b>  <b>for general lighting services by voltage &gt; 50V Safety specifications</b></p>	
Report Number .....	3155304.50
Date of issue .....	2014-11-27
Total number of pages.....	35 pages (including the first page)
<b>Applicant's name</b> .....	Ningbo New Oriental Electric Industrial Development Co., Ltd
Address.....	Room 4-11,#1-1 Buliding,Tianrun Business Block,No.737 Zhongxing road, Jiangdong district,315040, Ningbo Zhejiang P.R. China
<b>Test specification:</b>	
Standard .....	IEC 62560:2011 (First Edition)
Test procedure .....	GS
Non-standard test method.....:	N/A
<b>Test Report Form No.</b> .....	IEC62560A
Test Report Form(s) Originator .....	DEKRA Certification B.V.
Master TRF .....	Dated 2011-10
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<b>Test item description</b> .....	LED Lamp
Trade Mark.....	
Manufacturer:	Ningbo New Oriental Electric Industrial Development Co., Ltd No.98, Weisan Road, Xiaogang,Beilun District, Ningbo,Zhejiang, P.R. China
Model/Type reference.....	GU10A Series; JDRE14A Series; JDRE27A Series; GU10B Series; JDRE14B Series; JDRE27B Series; R50A E14 Series; R50B E14 Series;C37-E14 Series; G45-E14 Series; T37-E14 Series; C37-E27 Series; G45-E27 Series; T37-E27 Series; B45 E27Series;C37-B22 Series; G45 -B22 Series; T37 - B22 Series;(Refer to annex model list)
Ratings.....	220 - 240 V; 50 / 60 Hz; MAX 7 W; (Refer to annex model list)

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	DEKRA Testing and Certification (Shanghai) Ltd.
Testing location/ address..... :		10F, #250 Jiangchangsan Road, Building 16, Headquarter Economy Park Shibe Hi-Tech Park, Zhabei District, Shanghai, 200436, China
<input type="checkbox"/>	<b>Associated CB Laboratory:</b>	
Testing location/ address..... :		
Tested by (name + signature)..... :		Tony Mei 
Approved by (name + signature) .....		Wesley Xu 
<input type="checkbox"/>	<b>Testing procedure: TMP</b>	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature) .....		
<input type="checkbox"/>	<b>Testing procedure: WMT</b>	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Witnessed by (name + signature) .....		
Approved by (name + signature) .....		
<input type="checkbox"/>	<b>Testing procedure: SMT</b>	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature) .....		
Supervised by (name + signature)..... :		
<input type="checkbox"/>	<b>Testing procedure: RMT</b>	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature) .....		
Supervised by (name + signature)..... :		

<b>List of Attachments (including a total number of pages in each attachment):</b> N/A	
<b>Summary of testing:</b>	
<b>Tests performed (name of test and test clause):</b> All test items have been done in CBTL.	<b>Testing location:</b> DEKRA Testing and Certification (Shanghai) Ltd. 10F, #250 Jiangchangsang Road, Building 16, Headquarter Economy Park Shibe Hi-Tech Park, Zhabei District, Shanghai, 200436, China
<b>Summary of compliance with National Differences</b> <b>List of countries addressed: European National Differences</b> <input checked="" type="checkbox"/> The product fulfils the requirements of EN 62560	
<b>Copy of marking plate</b> The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks. GU10A-4W-01 3000K warm white 220-240 V~ 50/60Hz 37mA 4W 	
Note: 1. The height of CE symbols shall not be less than 5 mm. 2. The height of WEEE logo shall not be less than 7 mm.	

<b>Test item particulars</b> ..... : --	
Classification of installation and use .....	: Class II
Supply Connection .....	: GU10; E27; B22; E14
.....	:
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object.....	: N/A
- test object does meet the requirement.....	: P (Pass)
- test object does not meet the requirement .....	: F (Fail)
<b>Testing</b> .....:	
Date of receipt of test item .....	: 2014-11
Date (s) of performance of tests .....	: 2014-11
<b>General remarks:</b>	
<p>The test results presented in this report relate only to the object tested.  This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.  "(see Enclosure #)" refers to additional information appended to the report.  "(see appended table)" refers to a table appended to the report.  Clause numbers between brackets refer to clauses in IEC 61347-1  Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.  Although not listed in the test report, the following standards were also taken into account:  EN 62560: 2012  EN 62471: 2008  IEC/TR 62471-2: 2009  EN 62493: 2010</p> <p>Note 1: The product fulfils the requirements of related EK1 decision.  Note 2: (test for EK1 550-13): The test probe B of EN 61032 doesn't touch live parts during the screwing act when the lamp is in mechanical contact with the contacts of the lamp holder. (The lampholder is certificated / has VDE mark).</p>	
<b>Manufacturer's Declaration per sub-clause 6.2.5 of IEC 02:</b>	
<b>The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided</b> .....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies) :</b>	Ningbo New Oriental Electric Industrial Development Co., Ltd No.98, Weisan Road, Xiaogang, Beilun District, Ningbo Zhejiang P.R. China

**General product information:**

The products are self-ballasted lamps. All kinds of products have the same LED driver, but the appearance, enclosure, the power, lamp cap and color temperature of LED may be different. All test items were performed on model G45J-7W-01(E14 Cap) for it possessed the highest rating power.

Following tests were also performed on model GU10A-7W-01(GU10 Cap); G45-7W-02(E27 Cap); G45-7W-03(B22 Cap); due to different appearance.

Cause 6 Interchangeability

Clause 9 Mechanical strength

Clause 10 Cap temperature rise

Clause 14 Creepage distances and clearances

Following tests were also performed on all models with different appearance including C37J-7W-01;T37J-7W-01;JDRE14A-7W-01;JDREA27-7W-01; R50A-5W-01;C37J-7W-02; B45J-7W-01; T37J-7W-01

Cause 6.2 Bending moment

Clause 9 Mechanical strength


Clause 14 Creepage distances and clearances

The products are tested according to EN 62471: 2008 and IEC/TR 62471:2009 and classified as Exempt group. Please refer to report 3145305.50A and 3145305.50B.

These products comply with EMF requirements according to EN 62493:2010. The test result was laid down in DEKRA test report 3145306.10.

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		<b>P</b>
4.1	The lamp shall be so designed and constructed that in normal use cause no danger to the user.		P
4.2	Self-ballasted LED-Lamp are non-repairable.		P

<b>5</b>	<b>MARKING</b>		<b>P</b>
5.1	Mandatory marking		P
	- mark of origin		P
	- rated supply voltage (V) .....	220-240	P
	- rated wattage (W) .....	1,6 / 2 / 2,2 / 2,5 / 3 / 4 / 5 / 6 / 7	P
	- rated frequency (Hz) .....	50 / 60	P
5.2	Addition marking		P
	- burning position		N/A
	- rated current (A).....	On Label	P
	- weight significantly higher		N/A
	- special conditions or restrictions		P
	Not suitable for dimming; symbol  used		P
	- eye protection	Exempt Group	P
5.3	Marking durable and legible		P
	rubbing 15 s water, 15 s petroleum; marking legible		P

<b>6</b>	<b>INTERCHANGEABILITY</b>		<b>P</b>
6.1	Cap interchangeability in accordance with IEC 60061-1		P
	Gauge in accordance with IEC 60061-3		P
6.2	Bending moment, axial pull and mass		P
	Bending moment imparted by the lamp at the lampholder		P
	Lamp construction withstands axial pull (Nm) .....	40	P
	Mass not exceeding value tabel 2 (kg).....	<1 kg	P

<b>7</b>	<b>PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS</b>		
	Internal, basic insulated or live metal parts not accessible		P

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

	Tested with a test finger with a force of 10 N		P
	Compliance checked with appropriate gauges		P

8	INSULATION RESISTANCE AND ELECTRIC STRENGTH		
8.2	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	≥ 4 MΩ for double or reinforced insulation .....	500 MΩ	P
8.3	Immediately after clause 8.2 electric strength test for 1 min		P
	Double or reinforced insulation, 4U + 2000 V	(240 x 4) + 2000 V =2960 V	P
	No flashover or breakdown		P

9	MECHANICAL STRENGTH		
	Torsion resistance of unused lamps		P
9.1	Torque test	GU10 / 1,15 Nm	P
	B 15 d Cap .....	1,15 Nm	N/A
	B 22 d Cap .....	3,0 Nm	P
	E 11 Cap .....	0,8 Nm	N/A
	E 12 Cap .....	0,8 Nm	N/A
	E 14 Cap .....	1,15 Nm	P
	E 17 Cap .....	1,5 Nm	N/A
	E 26 or E27 Cap .....	3,0 Nm	P
	GX 53 Cap .....	3,0 Nm	under consideration
9.2	Torsion resistance of lamps after a defined time of usage		N/A
	Torsion resistance of used lamp	under consideration.	N/A
9.3	Repetition of clause 8		P
	Clause 8 shall comply after the mechanical strength test.		P

10	CAP TEMPERATURE RISE		
	The cap temperature rise $\Delta t_s$ of the lamp shall not exceed 120 K.	GU10 cap: 26,9 K max; E14 Cap:31,3 K max; E27 Cap:40,2 K max; B22 Cap:37,5 K max	P

11	RESISTANCE TO HEAT		P
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IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

	Parts of insulating material retaining live parts in position, ball-pressure test:		P
	- part; test temperature (°C) .....	Enclosure:125 °C	P
	- part; test temperature (°C) .....	PCB:125°C	P

<b>12</b>	<b>RESISTANCE TO FLAME AND IGNITION</b>		<b>P</b>
	External parts of insulating material preventing electric shock glow-wire test 650 °C	PCB; Enclosure; Lens	P
	- flame extinguished within 30 s		P
	- no flaming drops igniting tissue paper		P

<b>13</b>	<b>FAULT CONDITIONS</b>		<b>P</b>
13.2	Extreme electrical conditions (dimmable lamps)		N/A
	Lamp withstands overpower condition >15 min.		N/A
	Lamp fails safe after 15 min overpower condition		N/A
	Lamp with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
13.3	Extreme electrical conditions (non-dimmable lamps)		P
	Tested according 13.2 (as far as possible)		P
13.4	Short-circuit across capacitors	(see appended table)	P
13.5	Fault conditions: where diagram indicates fault condition impairs safety, electronic components have been short-circuited or disconnected	(see appended table) All tests on internal PCB.	P
13.6	When operated under fault conditions the lamp		P
	- does not emit flames or molten material		P
	- does not produce flammable gases or smoke		P
	- live parts not accessible		P
	After the tests the insulation resistance with d.c. 1000 V complies with requirements of Cl. 8.1 .....	500 MΩ	P

<b>14 (16)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		<b>P</b>
	Creep age distances and clearances according to Table 3 and 4 of IEC 61347-1, as appropriate	(see appended table)	P
	Printed boards see clause 14 of IEC 61347-1		P
	Insulating lining of metallic enclosures		N/A



<b>IEC 62560</b>			
Clause	Requirement + Test	Result - Remark	Verdict

<b>13</b>	<b>TABLE: tests of fault conditions</b>		<b>P</b>
Part	Simulated fault	Result	Hazard
C1	short-circuited and open-circuited	Nothing impairs safety	NO
C2	short-circuited and open-circuited	Nothing impairs safety	NO
D1	short-circuited and open-circuited	Nothing impairs safety	NO
LED driver output	short-circuited and open-circuited	Nothing impairs safety	NO

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

11	TABLE: Ball Pressure Test of Thermoplastics		P
Allowed impression diameter (mm) .....		2	—
Part	Test temperature (°C)	Impression diameter (mm)	
PCB	125	0,2	
Enclosure	125	0,9	
Supplementary information: N/A			







14(16)	TABLE: Clearance And Creep age Distance Measurements					
clearance cl and creep age distance decry at/of:	Up (V)	U rams. (V)	Required cl (mm)	cl (mm)	required decry (mm)	decry (mm)
Live parts of different polarity	--	240	1,7	4,5	2,5	4,5
Insulation between live parts and accessible parts	--	240	3,0	6,9	5,0	6,9
Supplementary information: 1.Reinforced insulation of IEC 60598-1 was taken into account when measuring distance between live part and accessible part.						









IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1)</sup>
LED	Shenzhen Runlite Technology Co.,Ltd	2835	10-20 V; 30 mA	EN 62560	Tested in appliance
LED (alternative)	XIAMEN DACOL PHOTOELECTRONICS TECHNOLOGY CO.,LTD	2835	10-20 V; 30 mA	EN 62560	Tested in appliance
LED (alternative)	SHENZHEN JINGTAI CO.,LTD	2835	10-20 V; 30 mA	EN 62560	Tested in appliance
LED (alternative)	SUZHOU HANRAYSON OPTOELECTRONIC CO.,LTD	2835	10-20 V; 30 mA	EN 62560	Tested in appliance
Lens	Ningbo Beilun Zheng Yi Mould Co.,Ltd	PC	V-0	EN 62560	Tested in appliance
Lamp Cap	ZHE JIANG CHENFENG LAMPHOLDER CO.,LTD	GU10,E14,E27,B22	--	EN 62560	Tested in appliance
Enclosure	Ningbo Beilun Zheng Yi Mould Co., Ltd	--	PBT	EN 62560	Tested in appliance
Enclosure (alternative)	Ningbo New Oriental Electric Industrial Development Co., Ltd	--	Ceramic; Plastic with Al	EN 62560	Tested in appliance
PCB	NINGBO HONGYI ELECTRONICS CO LTD	HY-1	V-0; 130 °C	EN 62560	Tested in appliance
PCB (alternative)	NINGBO JUNCHAO ELECTRONIC TECHNOLOGY CO LTD	JC	V-0; 105 °C	EN 62560	Tested in appliance
PCB (alternative)	NINGBO ZHANYAO ELECTRONIC TECHNOLOGY CO LTD	GL-2	V-0; 130 °C	EN 62560	Tested in appliance





IEC 62560					
Clause	Requirement + Test			Result - Remark	Verdict
PCB for LED module	NINGBO ZHANYAO ELECTRONIC TECHNOLOGY CO LTD	GL-2	V-0; 130 °C	EN 62560	Tested in appliance
Fuse resistor	Anhui Changsheng Electronics Co., Ltd	RXF	1 W; 100 Ω	EN 62560	Tested in appliance
Fuse resistor (alternative)	DONGGUAN HONGDA ELECTRONIC TECHNOLOGY CO LTD	RXF	1 W; 100 Ω	EN 62560	Tested in appliance
<b>Supplementary information:</b>					
<sup>1)</sup> <b>Provided evidence ensures the agreed level of compliance. See OD-CB2039.</b>					

## Annex Model list:

Model	Voltage	Frequency	Power	Lamp cap	Picture
G45J-7W-01	220-240VAC	50/60HZ	7W	E14	
G45J-6W-01	220-240VAC	50/60HZ	6W	E14	
G45J-5W-01	220-240VAC	50/60HZ	5W	E14	
G45J-5W-04	220-240VAC	50/60HZ	5W	E14	
G45J-4W-01	220-240VAC	50/60HZ	4W	E14	
G45J-4W-04	220-240VAC	50/60HZ	4W	E14	
C37J-7W-01	220-240VAC	50/60HZ	7W	E14	
C37J-6W-01	220-240VAC	50/60HZ	6W	E14	
C37J-5W-01	220-240VAC	50/60HZ	5W	E14	
C37J-5W-04	220-240VAC	50/60HZ	5W	E14	
C37J-4W-01	220-240VAC	50/60HZ	4W	E14	
C37J-4W-04	220-240VAC	50/60HZ	4W	E14	
T37J-7W-01	220-240VAC	50/60HZ	7W	E14	
T37J-6W-01	220-240VAC	50/60HZ	6W	E14	
T37J-5W-01	220-240VAC	50/60HZ	5W	E14	
T37J-5W-04	220-240VAC	50/60HZ	5W	E14	
T37J-4W-01	220-240VAC	50/60HZ	4W	E14	
T37J-4W-04	220-240VAC	50/60HZ	4W	E14	
G45J-7W-02	220-240VAC	50/60HZ	7W	E27	
G45J-6W-02	220-240VAC	50/60HZ	6W	E27	
G45J-5W-02	220-240VAC	50/60HZ	5W	E27	
G45J-5W-05	220-240VAC	50/60HZ	5W	E27	
G45J-4W-02	220-240VAC	50/60HZ	4W	E27	
G45J-4W-05	220-240VAC	50/60HZ	4W	E27	
C37J-7W-02	220-240VAC	50/60HZ	7W	E27	
C37J-6W-02	220-240VAC	50/60HZ	6W	E27	
C37J-5W-02	220-240VAC	50/60HZ	5W	E27	
C37J-5W-05	220-240VAC	50/60HZ	5W	E27	
C37J-4W-02	220-240VAC	50/60HZ	4W	E27	
C37J-4W-05	220-240VAC	50/60HZ	4W	E27	
B45J-4W-05	220-240VAC	50/60HZ	4W		
G45J-6W-03	220-240VAC	50/60HZ	6W	B22	
G45J-5W-03	220-240VAC	50/60HZ	5W	B22	
G45J-5W-06	220-240VAC	50/60HZ	5W	B22	
G45J-4W-03	220-240VAC	50/60HZ	4W	B22	
G45J-4W-06	220-240VAC	50/60HZ	4W	B22	
C37J-7W-03	220-240VAC	50/60HZ	7W	B22	
C37J -6W-03	220-240VAC	50/60HZ	6W	B22	
C37J-5W-03	220-240VAC	50/60HZ	5W	B22	
C37J-5W-06	220-240VAC	50/60HZ	5W	B22	
C37J-4W-03	220-240VAC	50/60HZ	4W	B22	
C37J-4W-06	220-240VAC	50/60HZ	4W	B22	

Model	Voltage	Frequency	Power	Lamp cap	Picture
G45-7W-01	220-240VAC	50/60HZ	7W	E14	
G45-6W-01	220-240VAC	50/60HZ	6W	E14	
G45-5W-01	220-240VAC	50/60HZ	5W	E14	
G45-5W-04	220-240VAC	50/60HZ	5W	E14	
G45-4W-01	220-240VAC	50/60HZ	4W	E14	
G45-4W-04	220-240VAC	50/60HZ	4W	E14	
C37-7W-01	220-240VAC	50/60HZ	7W	E14	
C37-6W-01	220-240VAC	50/60HZ	6W	E14	
C37-5W-01	220-240VAC	50/60HZ	5W	E14	
C37-5W-04	220-240VAC	50/60HZ	5W	E14	
C37-4W-01	220-240VAC	50/60HZ	4W	E14	
C37-4W-04	220-240VAC	50/60HZ	4W	E14	
T37-7W-01	220-240VAC	50/60HZ	7W	E14	
T37-6W-01	220-240VAC	50/60HZ	6W	E14	
T37-5W-01	220-240VAC	50/60HZ	5W	E14	
T37-5W-04	220-240VAC	50/60HZ	5W	E14	
T37-4W-01	220-240VAC	50/60HZ	4W	E14	
T37-4W-04	220-240VAC	50/60HZ	4W	E14	
B45-6W-01	220-240VAC	50/60HZ	6W	E27	
B45-5W-01	220-240VAC	50/60HZ	5W	E27	
B45-5W-04	220-240VAC	50/60HZ	5W	E27	
B45-4W-01	220-240VAC	50/60HZ	4W	E27	
G45-7W-02	220-240VAC	50/60HZ	7W	E27	
G45-6W-02	220-240VAC	50/60HZ	6W	E27	
G45-5W-02	220-240VAC	50/60HZ	5W	E27	
G45-5W-05	220-240VAC	50/60HZ	5W	E27	
G45-4W-02	220-240VAC	50/60HZ	4W	E27	
G45-4W-05	220-240VAC	50/60HZ	4W	E27	
C37-7W-02	220-240VAC	50/60HZ	7W	E27	
C37-6W-02	220-240VAC	50/60HZ	6W	E27	
C37-5W-02	220-240VAC	50/60HZ	5W	E27	
C37-5W-05	220-240VAC	50/60HZ	5W	E27	
C37-4W-02	220-240VAC	50/60HZ	4W	E27	
C37-4W-05	220-240VAC	50/60HZ	4W	E27	
G45-7W-03	220-240VAC	50/60HZ	7W	B22	
G45-6W-03	220-240VAC	50/60HZ	6W	B22	
G45-5W-03	220-240VAC	50/60HZ	5W	B22	
G45-5W-06	220-240VAC	50/60HZ	5W	B22	
G45-4W-03	220-240VAC	50/60HZ	4W	B22	
G45-4W-06	220-240VAC	50/60HZ	4W	B22	
C37-7W-03	220-240VAC	50/60HZ	7W	B22	
C37-6W-03	220-240VAC	50/60HZ	6W	B22	
C37-5W-03	220-240VAC	50/60HZ	5W	B22	
C37-5W-06	220-240VAC	50/60HZ	5W	B22	
C37-4W-03	220-240VAC	50/60HZ	4W	B22	
C37-4W-06	220-240VAC	50/60HZ	4W	B22	


Model	Voltage	Frequency	Power	Lamp cap	Picture
G45S-7W-01	220-240VAC	50/60HZ	7W	E14	
G45S-6W-01	220-240VAC	50/60HZ	6W	E14	
G45S-5W-01 (10 LEDs in LED Module)	220-240VAC	50/60HZ	5W	E14	
G45S-5W-04 (9 LEDs in LED Module)	220-240VAC	50/60HZ	5W	E14	
G45S-4W-01 (10 LEDs in LED Module)	220-240VAC	50/60HZ	4W	E14	
G45S-4W-04 (9 LEDs in LED Module)	220-240VAC	50/60HZ	4W	E14	
C37S-7W-01	220-240VAC	50/60HZ	7W	E14	
C37S-6W-01	220-240VAC	50/60HZ	6W	E14	
C37S-5W-01	220-240VAC	50/60HZ	5W	E14	
C37S-5W-04	220-240VAC	50/60HZ	5W	E14	
C37S-4W-01	220-240VAC	50/60HZ	4W	E14	
C37S-4W-04	220-240VAC	50/60HZ	4W	E14	
T37S-7W-01	220-240VAC	50/60HZ	7W	E14	
T37S -6W-01	220-240VAC	50/60HZ	6W	E14	
T37S-5W-01	220-240VAC	50/60HZ	5W	E14	
T37S-5W-04	220-240VAC	50/60HZ	5W	E14	
T37S-4W-01	220-240VAC	50/60HZ	4W	E14	
T37S-4W-04	220-240VAC	50/60HZ	4W	E14	
G45S-7W-02	220-240VAC	50/60HZ	7W	E27	
G45S-6W-02	220-240VAC	50/60HZ	6W	E27	
G45S-5W-02	220-240VAC	50/60HZ	5W	E27	
G45S-5W-05	220-240VAC	50/60HZ	5W	E27	
G45S-4W-02	220-240VAC	50/60HZ	4W	E27	
G45S-4W-05	220-240VAC	50/60HZ	4W	E27	
C37S-7W-02	220-240VAC	50/60HZ	7W	E27	
C37S-6W-02	220-240VAC	50/60HZ	6W	E27	
C37S-5W-02	220-240VAC	50/60HZ	5W	E27	
C37S-5W-05	220-240VAC	50/60HZ	5W	E27	
C37S-4W-02	220-240VAC	50/60HZ	4W	E27	
C37S-4W-05	220-240VAC	50/60HZ	4W	E27	
G45S-7W-03	220-240VAC	50/60HZ	7W	B22	
G45S-6W-03	220-240VAC	50/60HZ	6W	B22	
G45S-5W-03	220-240VAC	50/60HZ	5W	B22	
G45S-5W-06	220-240VAC	50/60HZ	5W	B22	
G45S-4W-03	220-240VAC	50/60HZ	4W	B22	
G45S-4W-06	220-240VAC	50/60HZ	4W	B22	
C37S-7W-03	220-240VAC	50/60HZ	7W	B22	
C37S-6W-03	220-240VAC	50/60HZ	6W	B22	
C37S-5W-03	220-240VAC	50/60HZ	5W	B22	
C37S-5W-06	220-240VAC	50/60HZ	5W	B22	
C37S-4W-03	220-240VAC	50/60HZ	4W	B22	
C37S-4W-06	220-240VAC	50/60HZ	4W	B22	
C38S-7W-02	220-240VAC	50/60HZ	7W	E27	
C38S-6W-02	220-240VAC	50/60HZ	6W	E27	
C38S-5W-01	220-240VAC	50/60HZ	5W	E27	
C38S-5W-02	220-240VAC	50/60HZ	5W	E27	
C38S-4W-01	220-240VAC	50/60HZ	4W	E27	
C38S-4W-02	220-240VAC	50/60HZ	4W	E27	







Model	Voltage	Frequency	Power	Lamp cap	Picture
C37G-7W-01	220-240VAC	50/60HZ	7W	E14	
C37G-6W-01	220-240VAC	50/60HZ	6W	E14	
C37G-5W-01	220-240VAC	50/60HZ	5W	E14	
C37G-5W-02	220-240VAC	50/60HZ	5W	E14	
C37G-4W-01	220-240VAC	50/60HZ	4W	E14	
C37G-4W-02	220-240VAC	50/60HZ	4W	E14	
T37G-7W-01	220-240VAC	50/60HZ	7W	E14	
T37G-6W-01	220-240VAC	50/60HZ	6W	E14	
T37G-5W-01	220-240VAC	50/60HZ	5W	E14	
T37G-5W-02	220-240VAC	50/60HZ	5W	E14	
T37G-4W-01	220-240VAC	50/60HZ	4W	E14	
T37G-4W-02	220-240VAC	50/60HZ	4W	E14	
G45I-7W-01	220-240VAC	50/60HZ	7W	E14	
G45I-6W-01	220-240VAC	50/60HZ	6W	E14	
G45I-5W-01	220-240VAC	50/60HZ	5W	E14	
G45I-5W-02	220-240VAC	50/60HZ	5W	E14	
G45I-4W-01	220-240VAC	50/60HZ	4W	E14	
G45I-4W-02	220-240VAC	50/60HZ	4W	E14	
C37I-7W-01	220-240VAC	50/60HZ	7W	E14	
C37I-6W-01	220-240VAC	50/60HZ	6W	E14	
C37I-5W-01	220-240VAC	50/60HZ	5W	E14	
C37I-5W-02	220-240VAC	50/60HZ	5W	E14	
C37I-4W-01	220-240VAC	50/60HZ	4W	E14	
C37I-4W-04	220-240VAC	50/60HZ	4W	E14	
T37I-7W-01	220-240VAC	50/60HZ	7W	E14	
T37I-6W-01	220-240VAC	50/60HZ	6W	E14	
T37I-5W-01	220-240VAC	50/60HZ	5W	E14	
T37I-5W-02	220-240VAC	50/60HZ	5W	E14	
T37I-4W-01	220-240VAC	50/60HZ	4W	E14	
T37I-4W-02	220-240VAC	50/60HZ	4W	E14	












Model	Voltage	Frequency	Power	Lamp cap	Picture
G45A-4W-01	220-240VAC	50/60HZ	4W	E14	
G45A-4W-04	220-240VAC	50/60HZ	4W	E14	
G45A-3W-01	220-240VAC	50/60HZ	3W	E14	
G45A-3W-04	220-240VAC	50/60HZ	3W	E14	
G45A-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
G45A-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
G45A-2W-01	220-240VAC	50/60HZ	2W	E14	
G45A-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
C37A-4W-01	220-240VAC	50/60HZ	4W	E14	
C37A-4W-04	220-240VAC	50/60HZ	4W	E14	
C37A-3W-01	220-240VAC	50/60HZ	3W	E14	
C37A-3W-04	220-240VAC	50/60HZ	3W	E14	
C37A-2.5W-01	220-240VAC	50/60HZ	2.5W	E14	
C37A-2.2W-01	220-240VAC	50/60HZ	2.2W	E14	
C37A-2W-01	220-240VAC	50/60HZ	2W	E14	
C37A-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
T37A-4W-01	220-240VAC	50/60HZ	4W	E14	
T37A-4W-02	220-240VAC	50/60HZ	4W	E14	
T37A-3W-01	220-240VAC	50/60HZ	3W	E14	
T37A-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
T37A-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
G45A-4W-02	220-240VAC	50/60HZ	4W	E27	
G45A-4W-05	220-240VAC	50/60HZ	4W	E27	
G45A-3W-02	220-240VAC	50/60HZ	3W	E27	
G45A-3W-05	220-240VAC	50/60HZ	3W	E27	
G45A-2.5W-02	220-240VAC	50/60HZ	2,5W	E27	
G45A-2.2W-02	220-240VAC	50/60HZ	2,2W	E27	
G45A-2W-02	220-240VAC	50/60HZ	2W	E27	
G45A-1.6W-02	220-240VAC	50/60HZ	1, 6W	E27	
C37A-4W-02	220-240VAC	50/60HZ	4W	E27	
C37A-4W-05	220-240VAC	50/60HZ	4W	E27	
C37A-3W-02	220-240VAC	50/60HZ	3W	E27	
C37A-3W-05	220-240VAC	50/60HZ	3W	E27	
C37A-2.5W-02	220-240VAC	50/60HZ	2.5W	E27	
C37A-2.2W-02	220-240VAC	50/60HZ	2.2W	E27	
C37A-2W-02	220-240VAC	50/60HZ	2W	E27	
C37A-1.6W-02	220-240VAC	50/60HZ	1, 6W	E27	
G45A-4W-03	220-240VAC	50/60HZ	4W	B22	
G45A-4W-06	220-240VAC	50/60HZ	4W	B22	
G45A-3W-03	220-240VAC	50/60HZ	3W	B22	
G45A-3W-06	220-240VAC	50/60HZ	3W	B22	
G45A-2.5W-03	220-240VAC	50/60HZ	2,5W	B22	
G45A-2.2W-03	220-240VAC	50/60HZ	2,2W	B22	
G45A-2W-03	220-240VAC	50/60HZ	2W	B22	
G45A-1.6W-03	220-240VAC	50/60HZ	1, 6W	B22	
C37A-4W-03	220-240VAC	50/60HZ	4W	B22	
C37A-4W-06	220-240VAC	50/60HZ	4W	B22	
C37A-3W-03	220-240VAC	50/60HZ	3W	B22	
C37A-3W-06	220-240VAC	50/60HZ	3W	B22	
C37A-2.5W-03	220-240VAC	50/60HZ	2.5W	B22	
C37A-2.2W-03	220-240VAC	50/60HZ	2.2W	B22	
C37A-2W-03	220-240VAC	50/60HZ	2W	B22	
C37A-1.6W-03	220-240VAC	50/60HZ	1, 6W	B22	

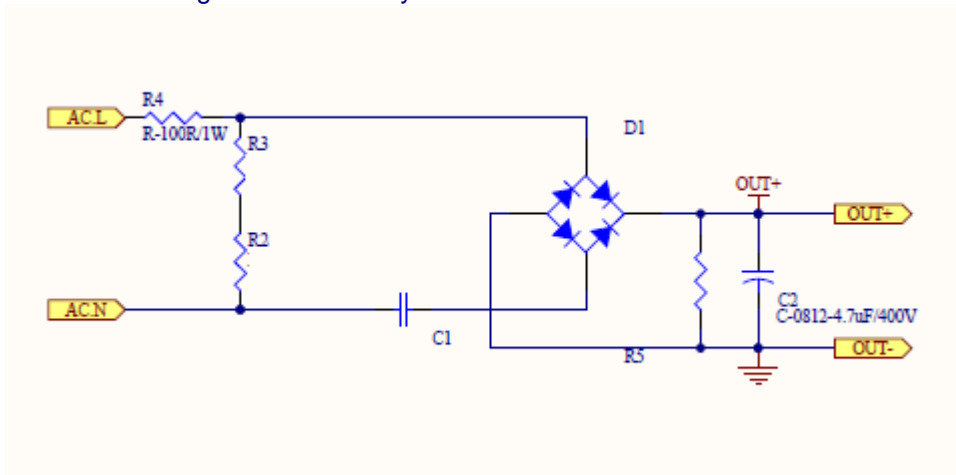
Model	Voltage	Frequency	Power	Lamp cap	Picture
G45C-4W-01	220-240VAC	50/60HZ	4W	E14	
G45C-4W-04	220-240VAC	50/60HZ	4W	E14	
G45C-3W-01	220-240VAC	50/60HZ	3W	E14	
G45C-3W-04	220-240VAC	50/60HZ	3W	E14	
G45C-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
G45C-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
G45C-2W-01	220-240VAC	50/60HZ	2W	E14	
G45C-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
C37C-4W-01	220-240VAC	50/60HZ	4W	E14	
C37C-4W-04	220-240VAC	50/60HZ	4W	E14	
C37C-3W-01	220-240VAC	50/60HZ	3W	E14	
C37C-3W-04	220-240VAC	50/60HZ	3W	E14	
C37C-2.5W-01	220-240VAC	50/60HZ	2.5W	E14	
C37C-2.2W-01	220-240VAC	50/60HZ	2.2W	E14	
C37C-2W-01	220-240VAC	50/60HZ	2W	E14	
C37C-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
T37C-4W-01	220-240VAC	50/60HZ	4W	E14	
T37C-4W-02	220-240VAC	50/60HZ	4W	E14	
T37C-3W-01	220-240VAC	50/60HZ	3W	E14	
T37C-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
T37C-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
G45C-4W-02	220-240VAC	50/60HZ	4W	E27	
G45C-4W-05	220-240VAC	50/60HZ	4W	E27	
G45C-3W-02	220-240VAC	50/60HZ	3W	E27	
G45C-3W-05	220-240VAC	50/60HZ	3W	E27	
G45C-2.5W-02	220-240VAC	50/60HZ	2,5W	E27	
G45C-2.2W-02	220-240VAC	50/60HZ	2,2W	E27	
G45C-2W-02	220-240VAC	50/60HZ	2W	E27	
G45C-1.6W-02	220-240VAC	50/60HZ	1, 6W	E27	
C37C-4W-02	220-240VAC	50/60HZ	4W	E27	
C37C-4W-05	220-240VAC	50/60HZ	4W	E27	
C37C-3W-02	220-240VAC	50/60HZ	3W	E27	
C37C-3W-05	220-240VAC	50/60HZ	3W	E27	
C37C-2.5W-02	220-240VAC	50/60HZ	2.5W	E27	
C37C-2.2W-02	220-240VAC	50/60HZ	2.2W	E27	
C37C-2W-02	220-240VAC	50/60HZ	2W	E27	
C37C-1.6W-02	220-240VAC	50/60HZ	1, 6W	E27	
G45C-4W-03	220-240VAC	50/60HZ	4W	B22	
G45C-4W-06	220-240VAC	50/60HZ	4W	B22	
G45C-3W-03	220-240VAC	50/60HZ	3W	B22	
G45C-3W-06	220-240VAC	50/60HZ	3W	B22	
G45C-2.5W-03	220-240VAC	50/60HZ	2,5W	B22	
G45C-2.2W-03	220-240VAC	50/60HZ	2,2W	B22	
G45C-2W-03	220-240VAC	50/60HZ	2W	B22	
G45C-1.6W-03	220-240VAC	50/60HZ	1, 6W	B22	
C37C-4W-03	220-240VAC	50/60HZ	4W	B22	
C37C-4W-06	220-240VAC	50/60HZ	4W	B22	
C37C-3W-03	220-240VAC	50/60HZ	3W	B22	

C37C-3W-06	220-240VAC	50/60HZ	3W	B22	
C37C-2.5W-03	220-240VAC	50/60HZ	2.5W	B22	
C37C-2.2W-03	220-240VAC	50/60HZ	2.2W	B22	
C37C-2W-03	220-240VAC	50/60HZ	2W	B22	
C37C-1.6W-03	220-240VAC	50/60HZ	1, 6W	B22	

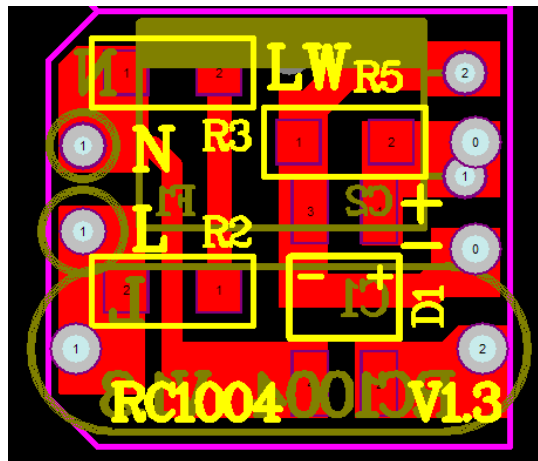
Model	Voltage	Frequency	Power	Lamp cap	Picture
G45E-4W-01	220-240VAC	50/60HZ	4W	E14	
G45E-4W-02	220-240VAC	50/60HZ	4W	E14	
G45E-3W-01	220-240VAC	50/60HZ	3W	E14	
G45E-3W-02	220-240VAC	50/60HZ	3W	E14	
G45E-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
G45E-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
G45E-2W-01	220-240VAC	50/60HZ	2W	E14	
G45E-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
C37E-4W-01	220-240VAC	50/60HZ	4W	E14	
C37E-4W-02	220-240VAC	50/60HZ	4W	E14	
C37E-3W-01	220-240VAC	50/60HZ	3W	E14	
C37E-3W-02	220-240VAC	50/60HZ	3W	E14	
C37E-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
C37E-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
C37E-2W-01	220-240VAC	50/60HZ	2W	E14	
C37E-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
T37E-4W-01	220-240VAC	50/60HZ	4W	E14	
T37E-4W-02	220-240VAC	50/60HZ	4W	E14	
T37E-3W-01	220-240VAC	50/60HZ	3W	E14	
T37E-3W-02	220-240VAC	50/60HZ	3W	E14	
T37E-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
T37E-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
T37E-2W-01	220-240VAC	50/60HZ	2W	E14	
T37E-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
G45F-4W-01	220-240VAC	50/60HZ	4W	E14	
G45F-4W-02	220-240VAC	50/60HZ	4W	E14	
G45F-3W-01	220-240VAC	50/60HZ	3W	E14	
G45F-3W-02	220-240VAC	50/60HZ	3W	E14	
G45F-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
G45F-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
G45F-2W-01	220-240VAC	50/60HZ	2W	E14	
G45F-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
C37F-4W-01	220-240VAC	50/60HZ	4W	E14	
C37F-4W-02	220-240VAC	50/60HZ	4W	E14	
C37F-3W-01	220-240VAC	50/60HZ	3W	E14	
C37F-3W-02	220-240VAC	50/60HZ	3W	E14	
C37F-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
C37F-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
C37F-2W-01	220-240VAC	50/60HZ	2W	E14	
C37F-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	
T37F-4W-01	220-240VAC	50/60HZ	4W	E14	
T37F-4W-02	220-240VAC	50/60HZ	4W	E14	
T37F-3W-01	220-240VAC	50/60HZ	3W	E14	
T37F-3W-02	220-240VAC	50/60HZ	3W	E14	
T37F-2.5W-01	220-240VAC	50/60HZ	2,5W	E14	
T37F-2.2W-01	220-240VAC	50/60HZ	2,2W	E14	
T37F-2W-01	220-240VAC	50/60HZ	2W	E14	
T37F-1.6W-01	220-240VAC	50/60HZ	1, 6W	E14	

Model	Voltage	Frequency	Power	Lamp cap	Picture
GU10A-3W-01	220-240VAC	50/60HZ	3W	GU10	
GU10A-4W-01	220-240VAC	50/60HZ	4W	GU10	
GU10A-5W-01	220-240VAC	50/60HZ	5W	GU10	
GU10A-6W-01	220-240VAC	50/60HZ	6W	GU10	
GU10A-7W-01	220-240VAC	50/60HZ	7W	GU10	
JDRE14A-3W-01	220-240VAC	50/60HZ	3W	E14	
JDRE14A -4W-01	220-240VAC	50/60HZ	4W	E14	
JDRE14A -5W-01	220-240VAC	50/60HZ	5W	E14	
JDRE14A -6W-01	220-240VAC	50/60HZ	6W	E14	
JDRE14A -7W-01	220-240VAC	50/60HZ	7W	E14	
JDRE27A-3W-01	220-240VAC	50/60HZ	3W	E27	
JDRE27A-4W-01	220-240VAC	50/60HZ	4W	E27	
JDRE27A-5W-01	220-240VAC	50/60HZ	5W	E27	
JDRE27A-6W-01	220-240VAC	50/60HZ	6W	E27	
JDRE27A-7W-01	220-240VAC	50/60HZ	7W	E27	
JDRE14A-3W-02	220-240VAC	50/60HZ	3W	E14	
JDRE14A-4W-02	220-240VAC	50/60HZ	4W	E14	
JDRE14A-5W-02	220-240VAC	50/60HZ	5W	E14	
JDRE14A -6W-02	220-240VAC	50/60HZ	6W	E14	
JDRE14A-7W-02	220-240VAC	50/60HZ	7W	E14	
R50A-3W-01	220-240VAC	50/60HZ	3W	E14	
R50A-4W-01	220-240VAC	50/60HZ	4W	E14	
R50A-5W-01	220-240VAC	50/60HZ	5W	E14	
R50B-3W-02	220-240VAC	50/60HZ	3W	E14	
R50B-4W-02	220-240VAC	50/60HZ	4W	E14	
R50B-5W-02	220-240VAC	50/60HZ	5W	E14	
GU10B-3W	220-240VAC	50/60HZ	3W	GU10	
GU10B-4W	220-240VAC	50/60HZ	4W	GU10	
JDRE14B-3W	220-240VAC	50/60HZ	3W	E14	
JDRE14B -4W	220-240VAC	50/60HZ	4W	E14	
JDRE27B-3W	220-240VAC	50/60HZ	3W	E27	
JDRE27B -4W	220-240VAC	50/60HZ	4W	E27	

Annex circuit diagram and PCB layout:



Circuit diagram



PCB layout for LED driver

LED Module:

PCB Layout	Series
	<p>7 W and 6 W (GU10A series; JDRE14A series; JDRE27A series)</p>
	<p>5 W (GU10A series; JDRE14A series; JDRE27A series)</p>
	<p>5 W (GU10A series; JDRE14A series; JDRE27A series)</p>

	<p>5 W (GU10A series; JDRE14A series; JDRE27A series)</p>
	<p>4 W (GU10A series; JDRE14A series; JDRE27A series)</p>
	<p>GU10A.JDRE14A,JDRE27A 3W</p>
	<p>3W (GU10A series; JDRE14A series; JDRE27A series)</p>



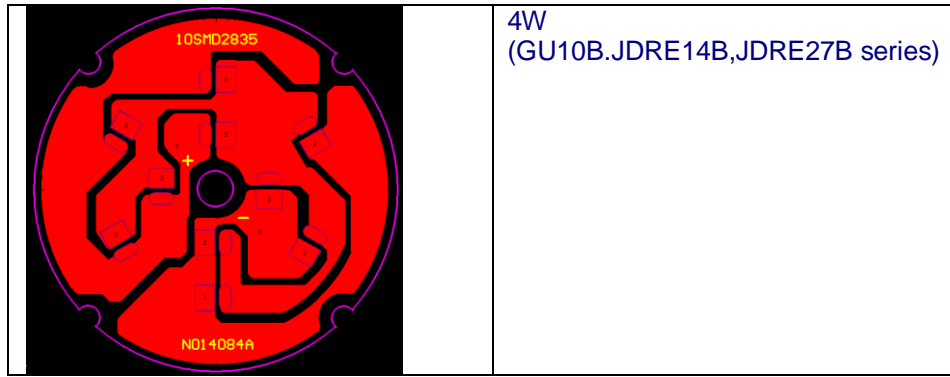
	<p>7 W and 6 W (G45 series)</p>
	<p>5 W (C37 and T37 series)</p>
	<p>6 W (C37 and T37 series)</p>
	<p>5 W (G45 series)</p>
	<p>6 W (B45 series)</p>
	<p>5 W (B45 series)</p>

A circular PCB layout for a 5W power tube. The layout is symmetrical and features a central circular hole. It includes various components such as resistors, capacitors, and a transformer, all arranged in a circular pattern. The components are color-coded: red for resistors, yellow for capacitors, and purple for the transformer. The layout is overlaid on a black grid.	<p>5W (T37 and G45 series)</p>
A circular PCB layout for a 5W power tube, similar to the first one but with a different component arrangement. It features a central circular hole and various components arranged in a circular pattern. The components are color-coded: red for resistors, yellow for capacitors, and purple for the transformer. The layout is overlaid on a black grid.	<p>5W (T37 and G45 series)</p>
A circular PCB layout for a 5W power tube, similar to the previous ones but with a different component arrangement. It features a central circular hole and various components arranged in a circular pattern. The components are color-coded: red for resistors, yellow for capacitors, and purple for the transformer. The layout is overlaid on a black grid.	<p>5W (B45 series)</p>
A circular PCB layout for a 4W power tube. The layout is symmetrical and features a central circular hole. It includes various components such as resistors, capacitors, and a transformer, all arranged in a circular pattern. The components are color-coded: red for resistors, yellow for capacitors, and purple for the transformer. The layout is overlaid on a black grid.	<p>4W (G45 series)</p>
A circular PCB layout for a 4W power tube, similar to the previous ones but with a different component arrangement. It features a central circular hole and various components arranged in a circular pattern. The components are color-coded: red for resistors, yellow for capacitors, and purple for the transformer. The layout is overlaid on a black grid.	<p>4W (B45 series)</p>

<p>A circular PCB layout for a 4W power supply. The board is red with yellow traces. It features a central circular cutout and a purple outer boundary. Components are arranged in a radial pattern. Labels include '9-SMD' on the left and 'ND14D80A' on the right.</p>	<p>4W (C37 and T37 series)</p>
<p>A circular PCB layout for a 4W power supply, similar to the first but with a different component arrangement. Labels include '9-SMD' on the left and 'ND14D81A' on the right.</p>	<p>4W (G45 series)</p>
<p>A circular PCB layout for a 3W power supply. Labels include '8-SMD' on the left and 'ND13Z74A' on the right.</p>	<p>3W (C37 and T37 series)</p>
<p>A circular PCB layout for a 3W power supply, similar to the third but with a different component arrangement. Labels include '8-SMD' on the left and 'ND13Z78A' on the right.</p>	<p>3W (G45 series)</p>

<p>The image shows a circular PCB layout for the C37 and T37 series. It features a central circular pad with a '+' sign, surrounded by a complex network of red conductive traces. Six rectangular components are mounted around the perimeter, each with a yellow square pad. Labels include '75MD' and 'ND14072A'.</p>	<p>2,5W and 3W ( C37 and T37 series )</p>
<p>The image shows a circular PCB layout for the G45 series. It features a central circular pad with a '+' sign, surrounded by red traces. Six rectangular components are mounted around the perimeter. Labels include '75MD' and 'ND14069A'.</p>	<p>3W and 2,5W (G45 series)</p>
<p>The image shows a circular PCB layout for the G45 series. It features a central circular pad with a '+' sign, surrounded by red traces. Six rectangular components are mounted around the perimeter. Labels include '55MD' and 'ND14069A'.</p>	<p>2W and 2,2W (G45 series)</p>
<p>The image shows a circular PCB layout for the G45 series. It features a central circular pad with a '+' sign, surrounded by red traces. Six rectangular components are mounted around the perimeter. Labels include '55MD' and 'ND14069A'.</p>	<p>2W and 2,2W (G45 series)</p>

	<p>1,6W (C37 and G45 series)</p>
	<p>R50 5W (R50 series)</p>
	<p>4W (R50 series)</p>
	<p>3W (R50 series)</p>
	<p>3W (GU10B, JDRE14B, JDRE27B series)</p>



Annex picture:



LED Driver



LED Driver

Annex picture:



GU10 Cap



E14 Cap



Annex picture:

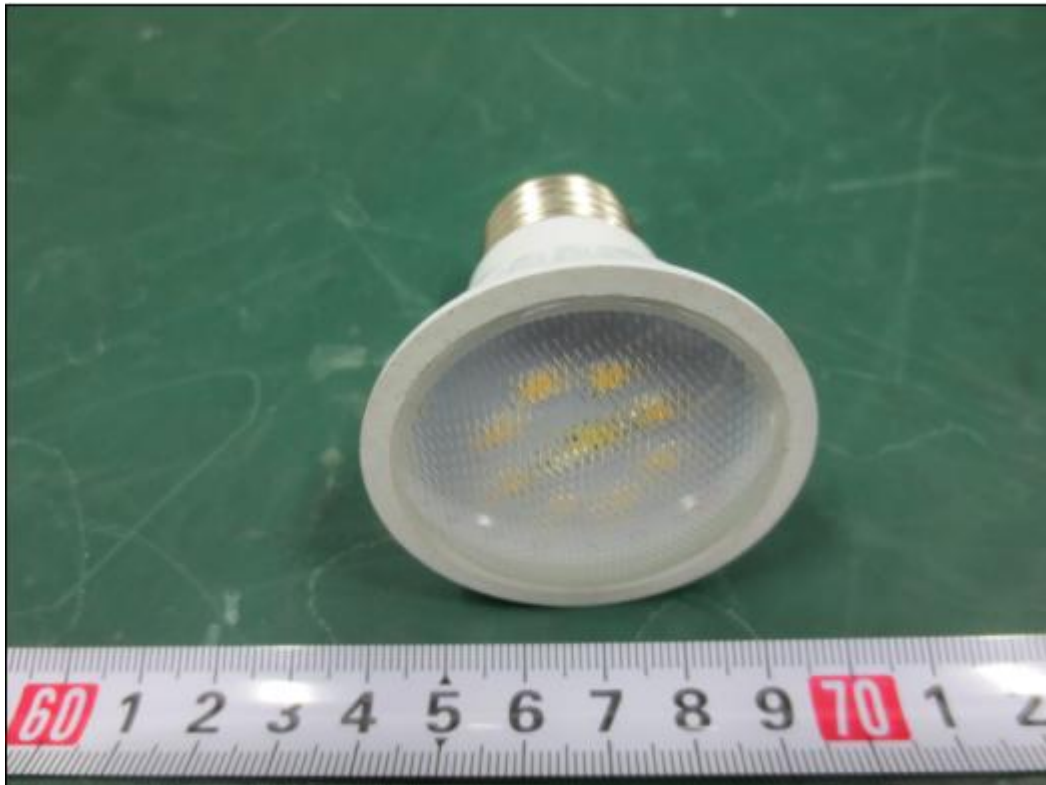


E27 Cap



B22 Cap

Annex picture:

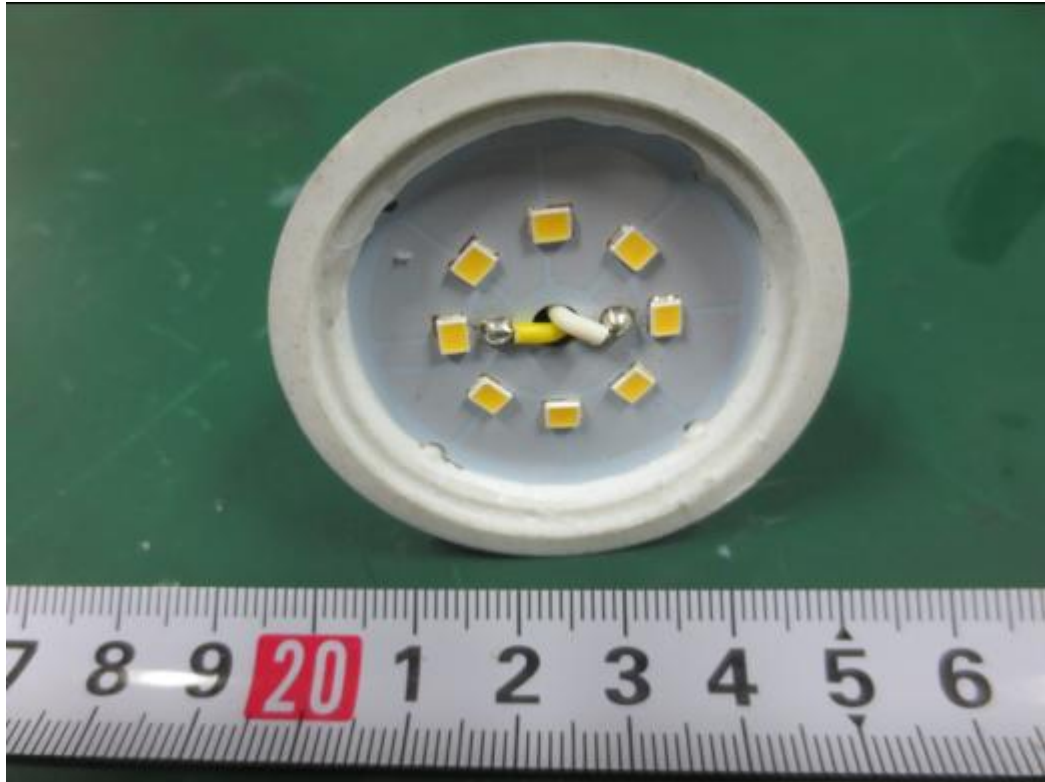


Overview

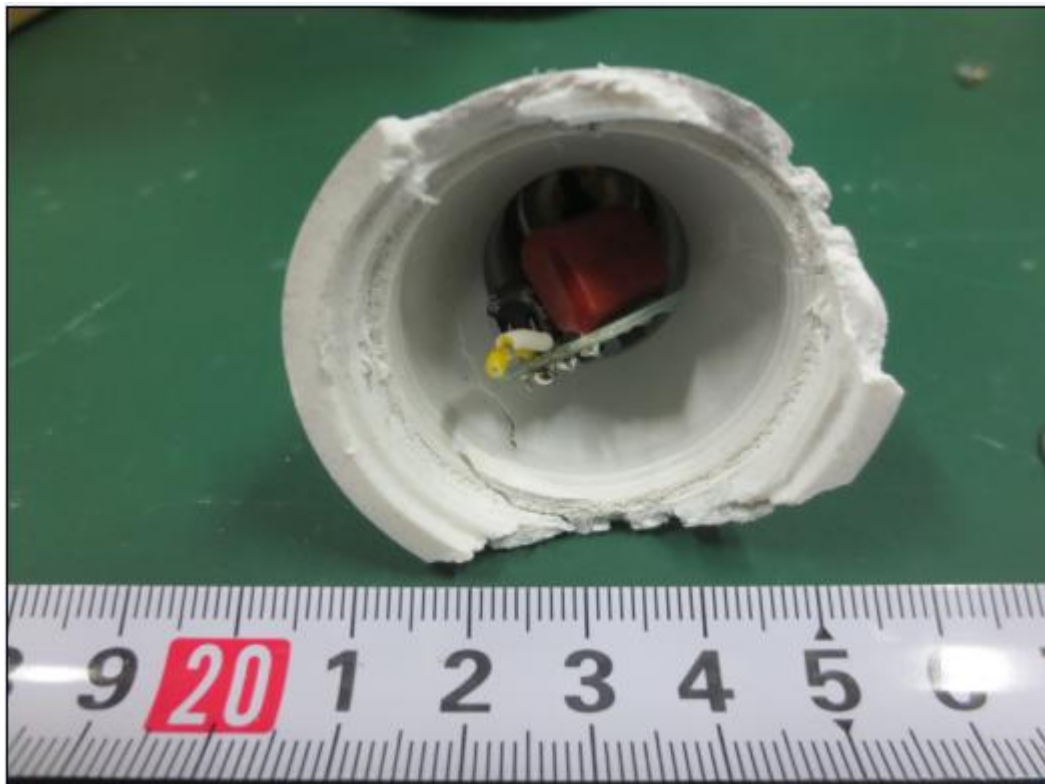


View of JERE27

Annex picture:



Overview



Internal View

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