RoHS PARTS

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SPECIFICATION FOR APPROVAL

CUSTOMER:

PROGRAM NO. : LED-00-108V-0.360A-001-R1-V2

ISSUE DATE: 2020.2.10

VERSION	Details
V0	Initiated
V2	Change PCB shape

DESIGNED BY	CHECKED BY
GMJ	

CUSTOMER APPROVED SIGNATURE:
APPROVED DATE:

FERRICS TECHNOLOGY CO., LIMITED

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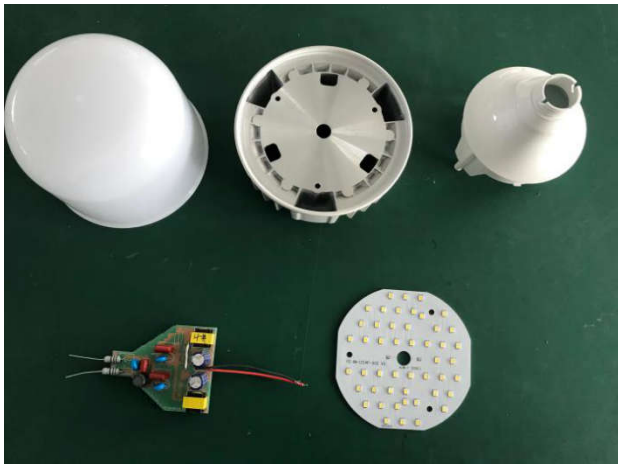
LED-00-108V-0.360A-001-R1-V2

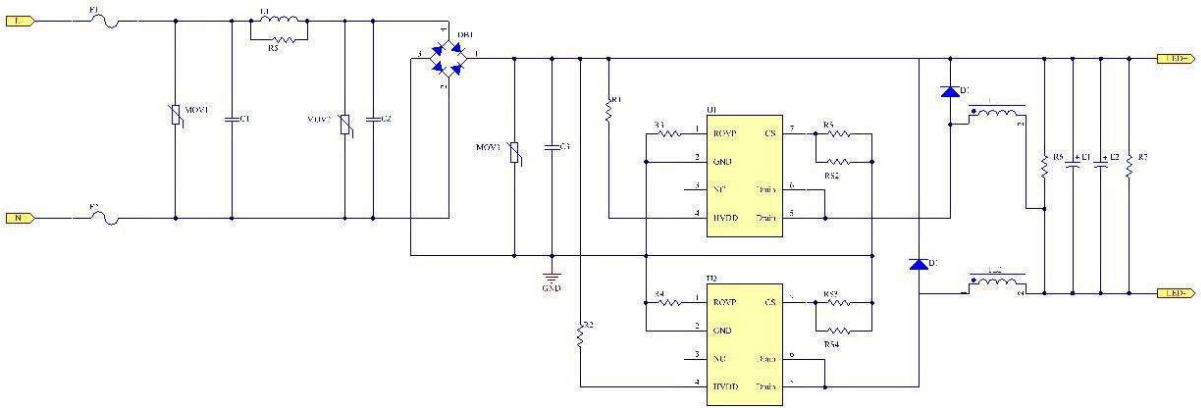
1. Photograph

Top View	Bottom View
	

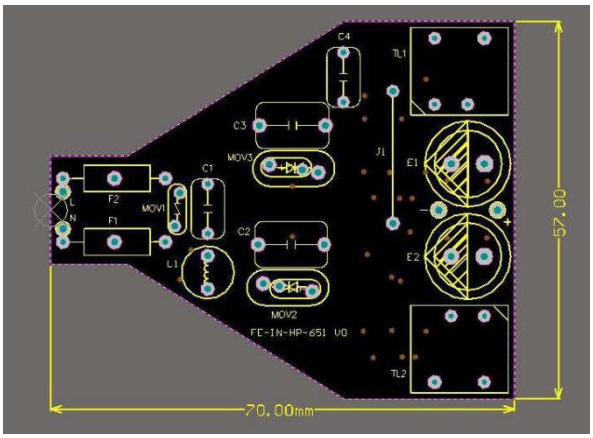
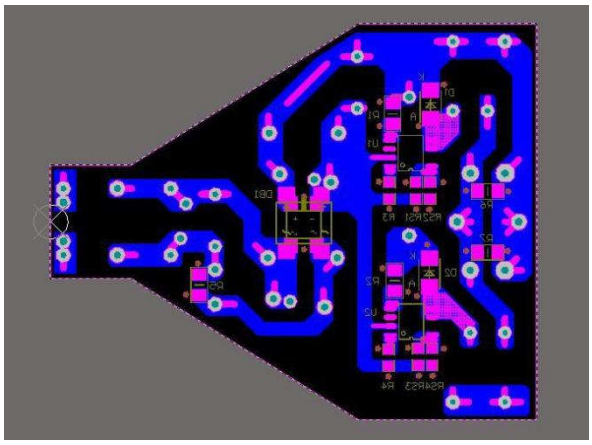
2. Input & Output Parameters

	Min	Normal	Max
Input Voltage(Vac)	180	230	420-440
Input Power(W)		42	
Output Voltage(Vdc)		108	
Output Current(mA)		360	
Efficiency		90%	
Surge			4KV

3. Schematic diagram



4. PCB layout

Top View	Bottom View
	

5. Test Reports

1) No load Output Voltage

AC input Voltage (Vac)	180V	230V	260V	300V	360V	400V	440V
Output voltage(Vdc)	128	131	130	134	135	137	140

2) General Test

Input : AC input voltage is 180Vac,230Vac,260Vac,300Vac,360Vac,400Vac,440Vac.
Load condition: CV 108Vdc.

Input Voltage	Load	Input Power (W)	PF	THD	Output Current (mA)	Eff (%)
180Vac	CV 108Vdc	39.6	0.966		333	90.8
230Vac		41.9	0.975	18.8	355	91.5
260Vac		42.3	0.970		360	91.9
300Vac		42.9	0.966		364	91.6
360Vac		39.3	0.932		334	91.8
400Vac		31.3	0.879		264	91.1
440Vac		23.4	0.773		189	87.2

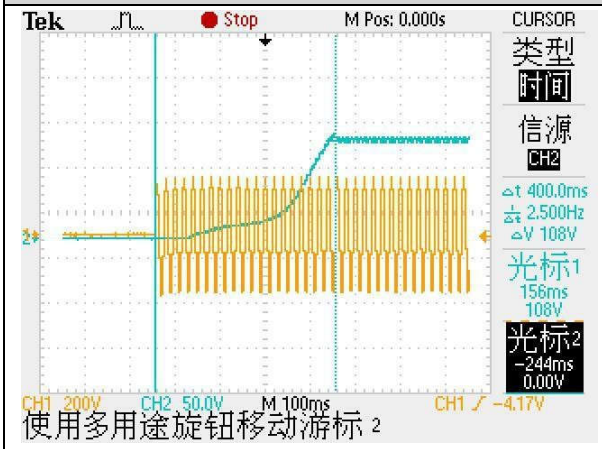
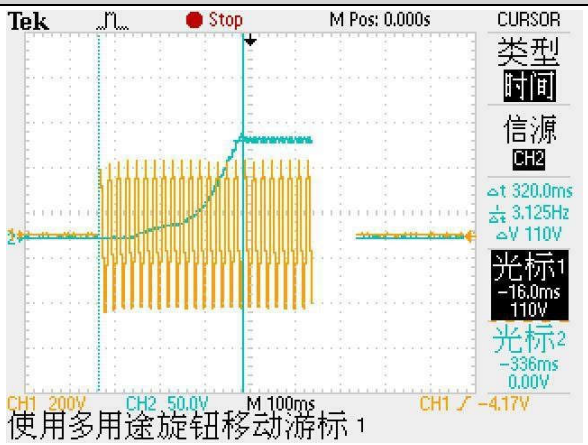
3) Short-Circuit Test

Input: AC180~440V; Output: short.
Test result: No components damaged, the demo board should be working when the short-circuit is removed.

AC input Voltage(Vac)	180V	230V	260V	300V	360V	400V	440V
Input Power (W)	0.41	0.58	0.72	0.95	1.39	1.76	3.08

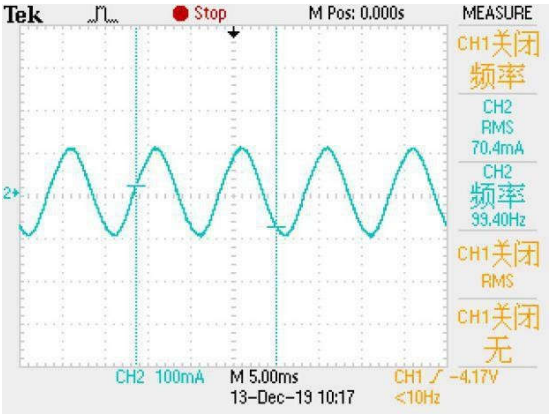
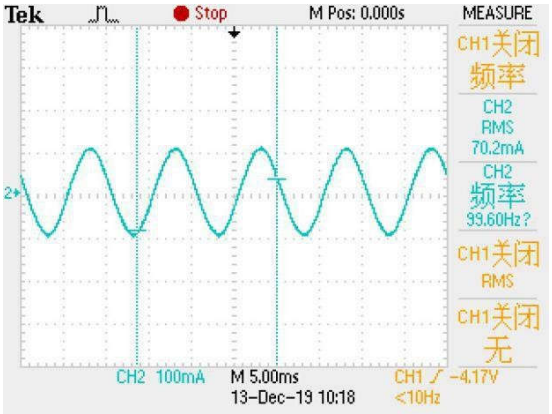
4) Start-up Time

Load condition: Full led load.

Input Voltage 180Vac	Input Voltage 230Vac
	
400ms	320ms

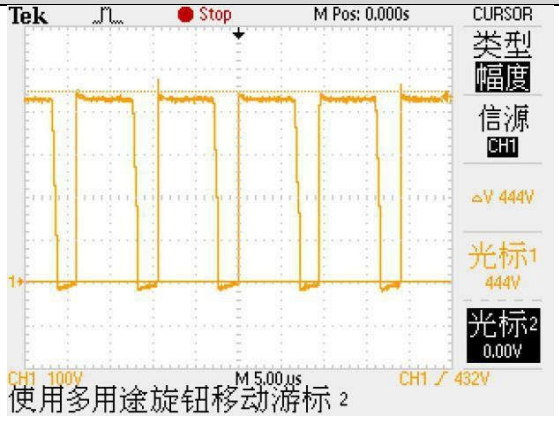
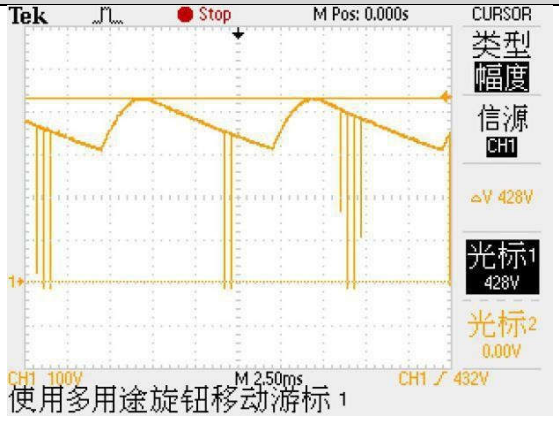
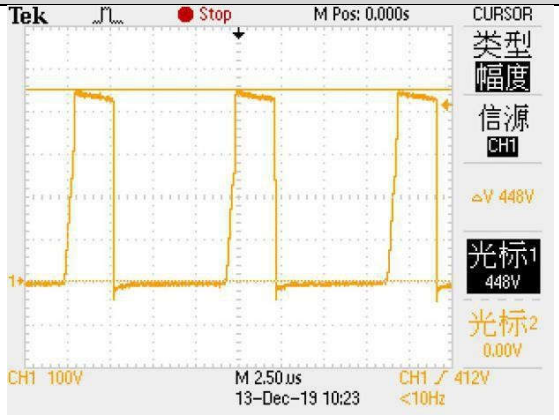
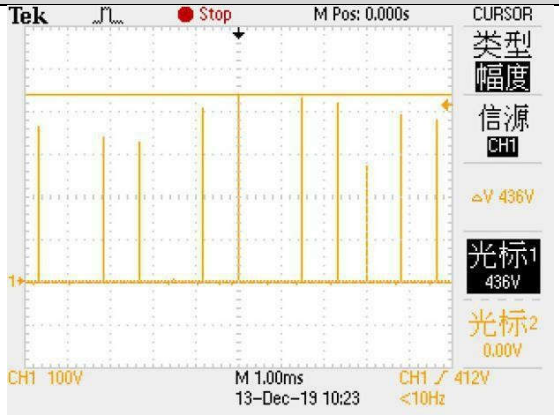
5) Ripple current Test (RMS)

Load condition: Full led load.

Input Voltage 260Vac	Input Voltage 300Vac
	
I=70.4mA	I=70.2mA

6) Mosfet and DIODE Voltage Stress Test

Input voltage: 300Vac, Load condition: full led load/short

MOSFET Voltage 300Vac,full load	MOSFET Voltage 300Vac,short
	
ΔV=444V	ΔV=428V
Diode Voltage 300Vac,full load	**Diode Voltage 300Vac,short**
	
ΔV=448V	ΔV=436V

7) Temperature Test

Case Closed, No wind environmental test. Vin:180Vac/230Vac/300Vac
Full led load.

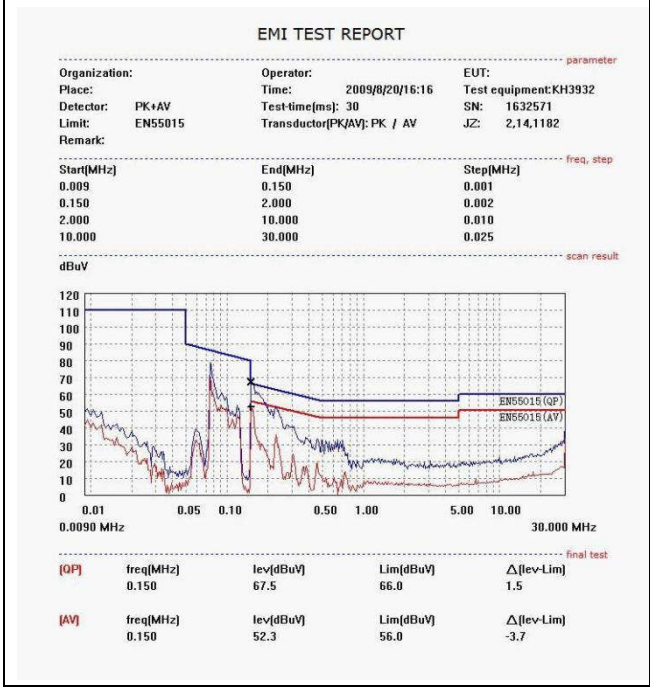
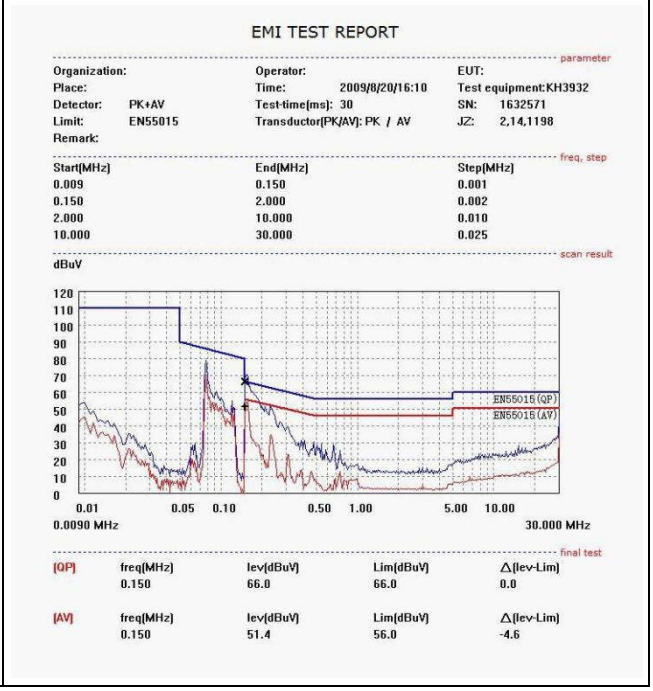
Position	180Vac	230Vac	300Vac
U1	103	105	106
U2	101	103	107
D1	101	104	110
D2	101	103	109
DB1	83	82	81
Winding1	99	101	106
CORE1	98	99	106
Winding2	96	97	103
CORE2	97	99	104
E1	87	89	92
E2	87	88	92
L1	76	73	68
F1	79	71	60
LED-	84	85	86
Shell	71	72	73
Ambient temperature	25℃		

8) 4kV Surge Testing

The test conditions: 230Vac, 4kV, 30s.

Angel	Positive or Negative	times	Pass/Fail
0	+	5	Pass
0	-	5	Pass
90	+	5	Pass
90	-	5	Pass
180	+	5	Pass
180	-	5	Pass
270	+	5	Pass
270	-	5	Pass

9) EMI Testing

230Vac-L	230Vac-N
	

10) Lumen Testing

Ferrics Technology

Lightsource Test Report

Product Infomation

Product Number: 153303

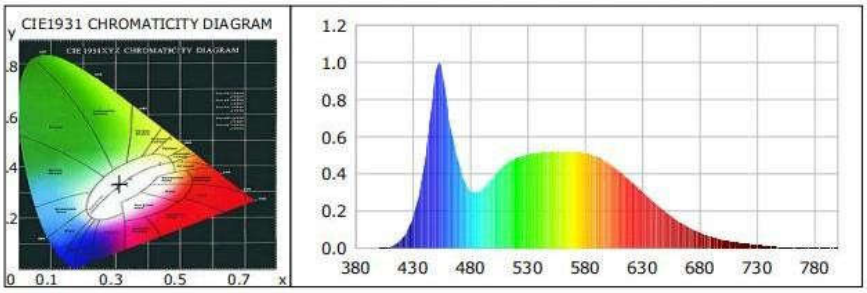
CIE Colorimetric Parameters

Chromaticity coordinates: x=0.3122 y=0.3347 u(u')=0.1954 v=0.3142 v'=0.4713
CCT: Tc=6488K (duv=0.00634) Color Ratio: R=0.131 G=0.810 B=0.059
Peak Wavelength: 452.4nm Half Bandwidth: 27.2nm
Dominant Wavelength: 492.6nm Color Purity: 0.070
CRI: Ra= 82.8 TM30: Rf= 81, Rg= 93

R1 =80	R2 =88	R3 =93	R4 =81	R5 =81	R6 =84	R7 =88	R8 =68
R9 =1	R10=72	R11=80	R12=60	R13=83	R14=96	R15=75	

Color Quality Scale: Qa= 81.7, Qf= 82.0, Qp= 80.9, Qg= 90.0

Q1 =82	Q2 =99	Q3 =81	Q4 =74	Q5 =79	Q6 =81	Q7 =85	Q8 =89
Q9 =97	Q10=89	Q11=84	Q12=83	Q13=82	Q14=69	Q15=75	



Photometric Parameters

Luminous Flux: 4623.36 lm Efficiency: 116.90 lm/W Radiant Power: 14.778 W
EEI: 0.12 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 229.80V Current: 0.1760A Power: 39.55W
Power Factor: 0.9750 Frequency: 49.99Hz

Test Infomation
Scan Range: 380~800:1nm
Stabilization Time: 30 Min
Max of Signal: 46372 (2482)
Photometric Method: sphere-spectroradiometer
Photometric Condition: Sphere diameter: 1.75m, 4∏
CCD Integration Time: 187.18 ms