



RoHS PARTS

请 承 认 书

SPECIFICATION FOR APPROVAL

CUSTOMER :

PROGRAM NO. : LED-00-117V-0.375A-002-R2-V0

ISSUE DATE: 2020-04-20

VERSION	Details	
V0	Initiated	
DESIGNED BY		CHECKED BY
GMJ		
CUSTOMER APPROVED SIGNATURE :		
APPROVED DATE:		

FERRICS TECHNOLOGY CO., LIMITED

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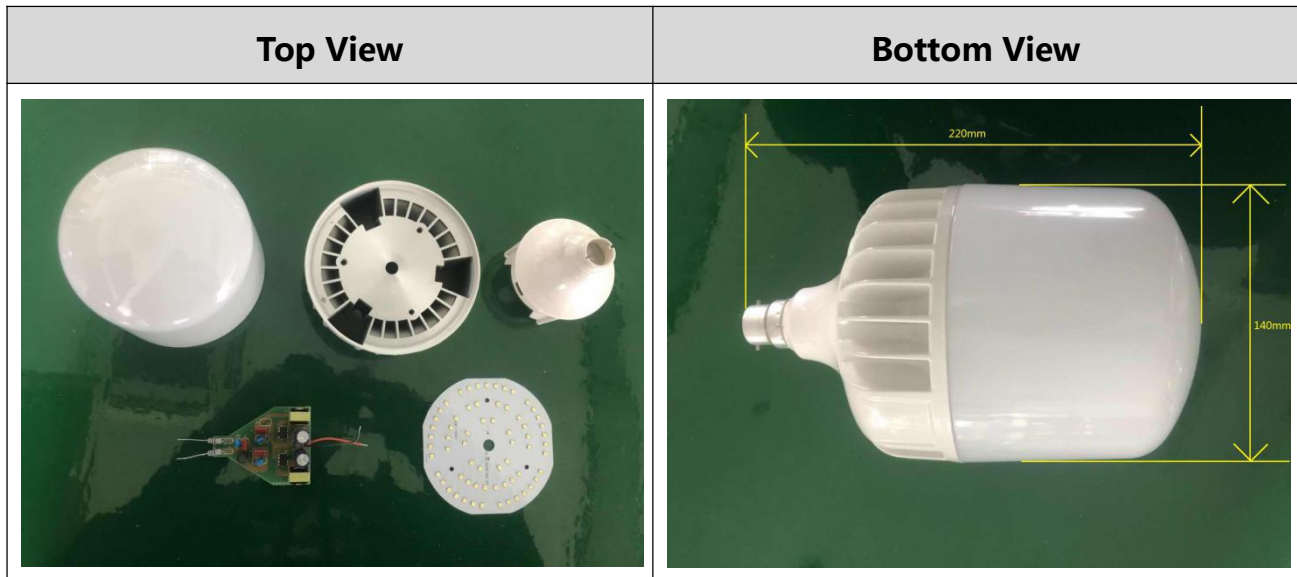
Fax: +86-573-80700736

<http://www.ferrics.com>

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LED-00-117V-0.375A-002-R2-V0

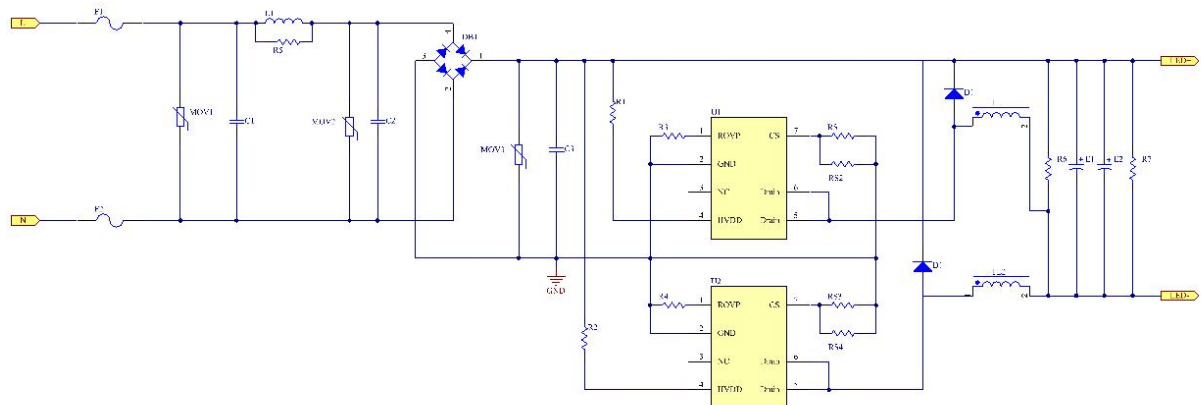
1. Photograph



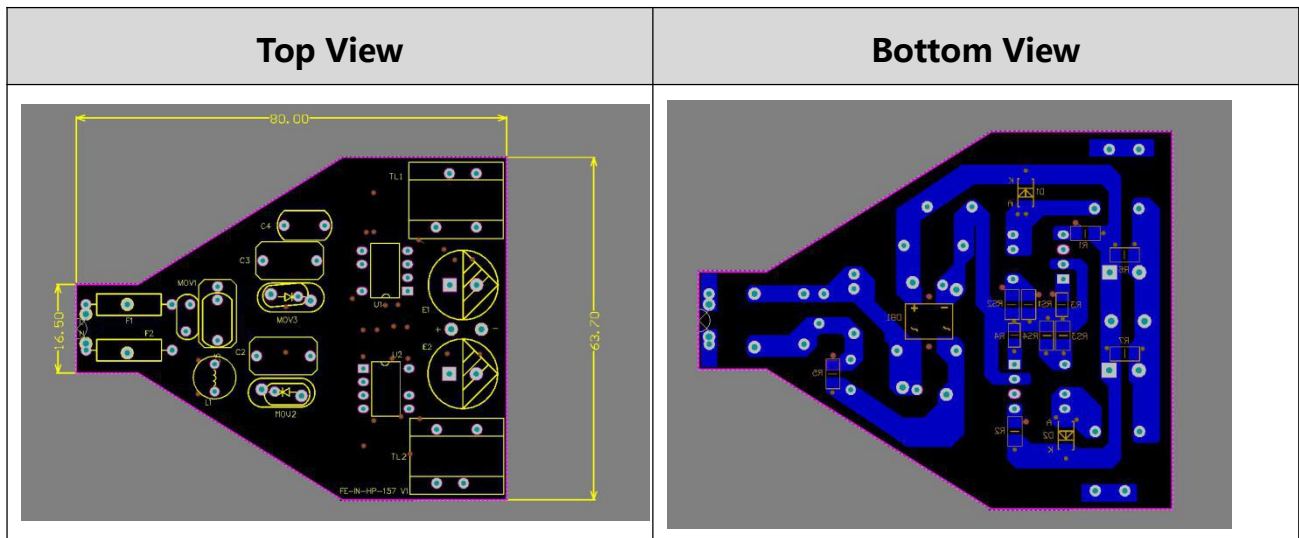
2. Input & Output Parameters

	Min	Normal	Max
Input Voltage(Vac)	200	230	420-440
Input Power(W)		47	
Output Voltage(Vdc)		117	
Output Current(mA)		375	
Efficiency		90%	
Surge			4KV

3. Schematic diagram



4. PCB layout



5. Test Reports

1) No load Output Voltage

AC input Voltage (Vac)	200V	230V	260V	300V	350V	400V	440V
Output voltage(Vdc)	158	163	162	168	169	175	175

2) General Test

Input : AC input voltage is 200Vac,230Vac,260Vac,300Vac,350Vac,400Vac,440Vac.

Load condition: CV 117Vdc.

Input Voltage	Load	Input Power (W)	PF	THD	Output Current (mA)	Eff (%)
200Vac	CV 117Vdc	38.06	0.964		302	92.94
230Vac		46.95	0.974	19.1	375	93.45
260Vac		47.26	0.972		378	93.58
300Vac		47.68	0.946		382	93.74
350Vac		46.61	0.943		367	92.12
400Vac		36.41	0.876		284	91.26
440Vac		27.35	0.761		204	87.27

3) Short-Circuit Test

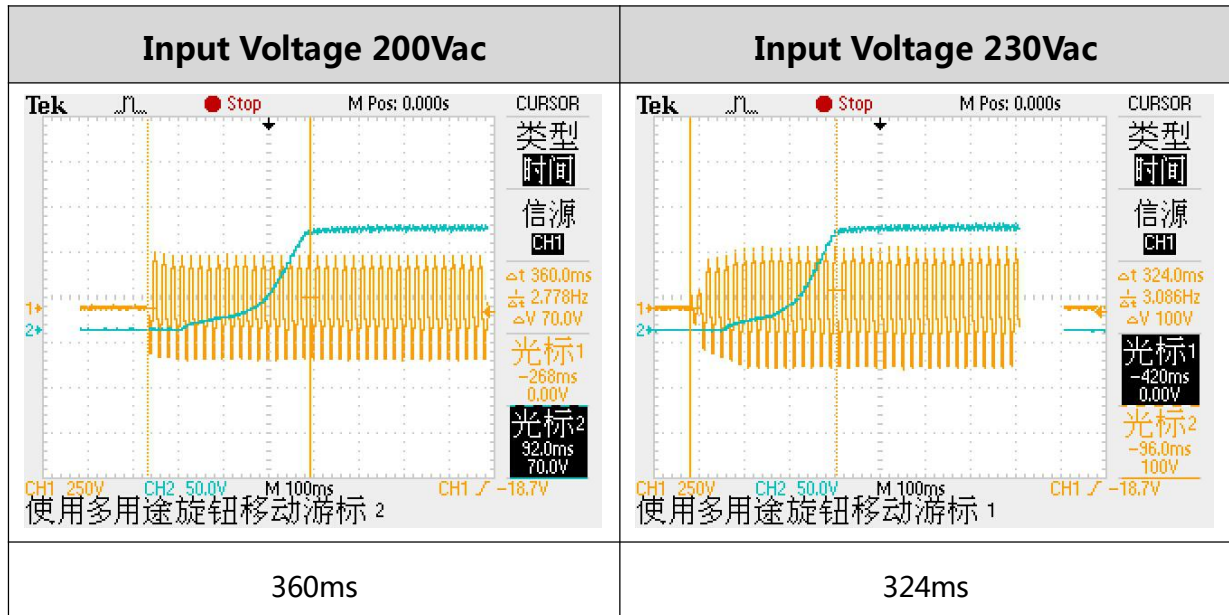
Input: AC200~440V; Output: short.

Test result: No components damaged, the demo board should be working when the short-circuit is removed.

AC input Voltage(Vac)	200V	230V	260V	300V	350V	400V	440V
Input Power (W)	0.42	0.71	0.88	1.49	1.55	2.05	4.58

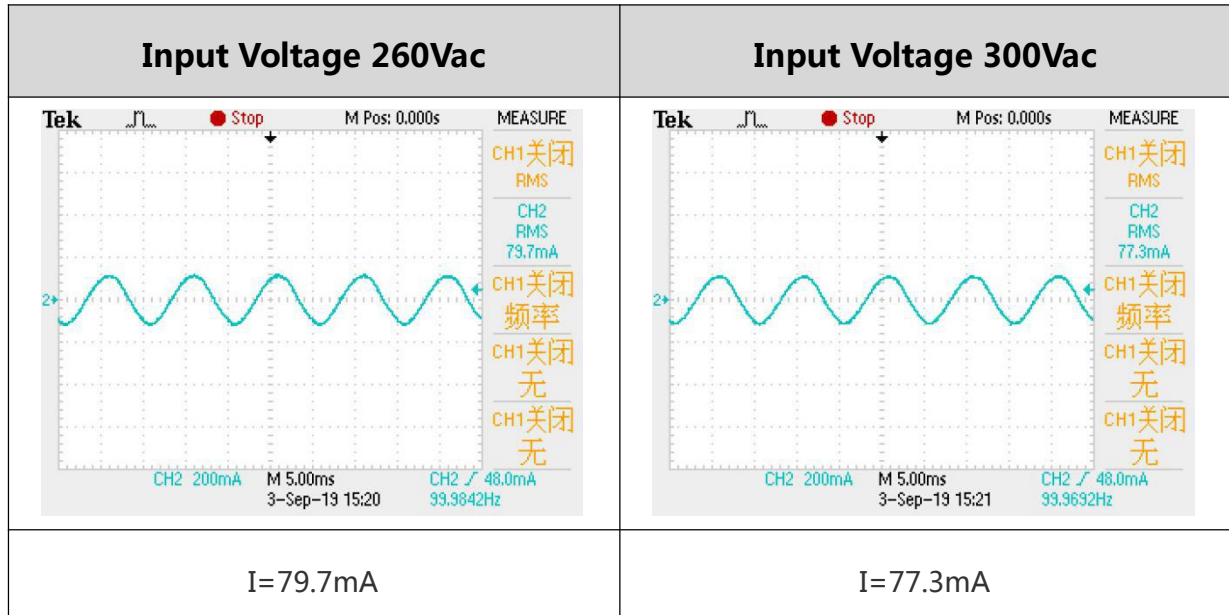
4) Start-up Time

Load condition: Full led load.



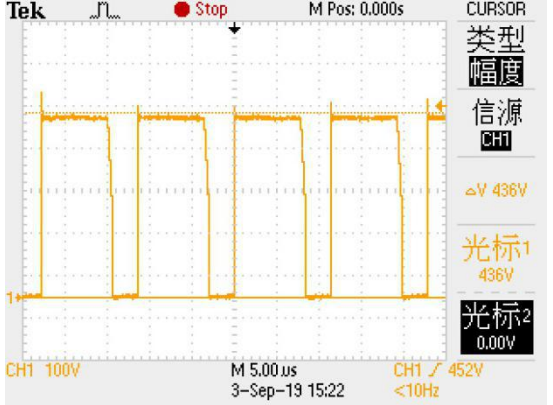
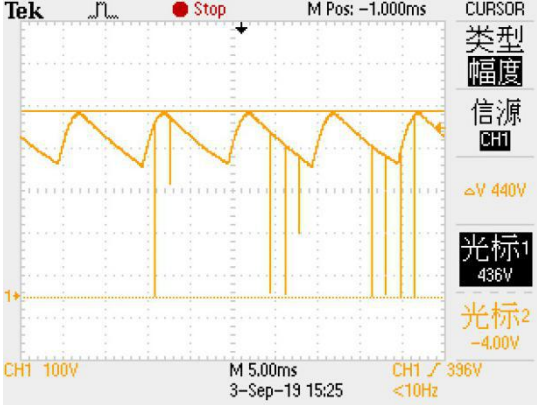
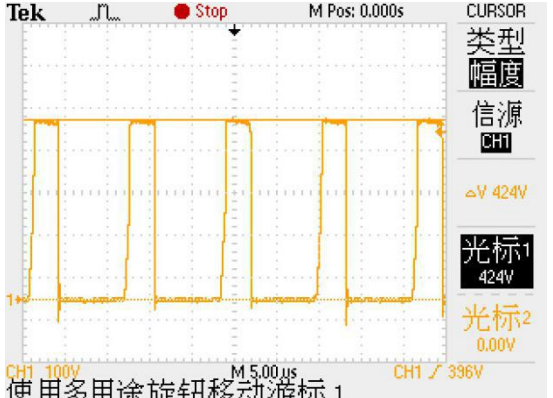
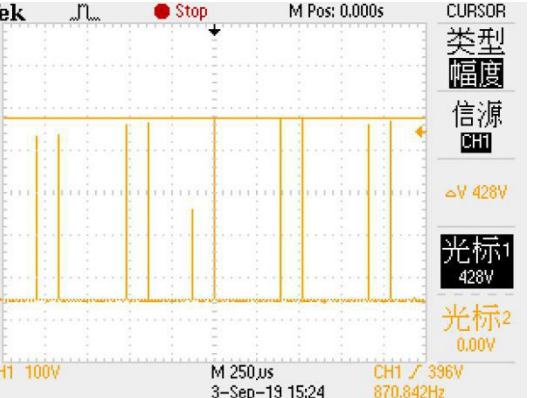
5) Ripple current Test (RMS)

Load condition: Full led load.



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
 Cursor: 类型 幅度 信源 CH1 光标1: 436V 光标2: 0.00V CH1 100V M 5.00us 3-Sep-19 15:22 CH1 452V <10Hz	 Cursor: 类型 幅度 信源 CH1 光标1: 440V 光标2: -4.00V CH1 100V M 5.00ms 3-Sep-19 15:25 CH1 396V <10Hz
$\Delta V=436V$	$\Delta V=440V$
Diode Voltage 300Vac,full load	Diode Voltage 300Vac,short
 Cursor: 类型 幅度 信源 CH1 光标1: 424V 光标2: 0.00V CH1 100V M 5.00us 3-Sep-19 15:24 CH1 396V 870.842Hz 使用多用途旋钮移动光标 1	 Cursor: 类型 幅度 信源 CH1 光标1: 428V 光标2: 0.00V CH1 100V M 250us 3-Sep-19 15:24 CH1 396V 870.842Hz
$\Delta V=424V$	$\Delta V=428V$

7) Temperature Test

Case Closed, No wind environmental test. Vin:200Vac/230Vac/300Vac

Full led load.

Position	200Vac	230Vac	300Vac
U1	85.4	89.2	98.5
U2	85.7	91.1	100.1
D1	75.3	78.3	84
D2	80.7	85.3	92.2
DB1	68.5	68.5	66.6
Winding1	77.2	80.1	86.7
CORE1	76.5	79.2	86
Winding2	81.3	86.4	91
CORE2	78.9	83.2	90.5
E1	69.1	71.1	74.7
L1	69.1	67.4	61.4
LED-1	67.4	70.4	72.1
LED-2	66.8	69.8	71.7
F1	74.1	70	56.8
Shell	62.3	64.7	66.5
Ambient temperature	25°C		

8) 4KV 30S 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

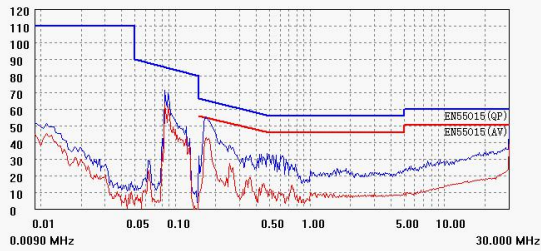
230Vac-L

EMI TEST REPORT

Organization: Operator: 2009/8/20/16:22 EUT: parameter
Place: Time: Test equipment: KH3932
Detector: PK+AV Test-time(ms): 30 SN: 1632571
Limit: EN55015 Transducer(PK/AV): PK / AV JZ: 2,14,1170
Remark:

Start(MHz) End(MHz) Step(MHz) freq, step
0.009 0.150 0.001
0.150 2.000 0.002
2.000 10.000 0.010
10.000 30.000 0.025

dBuV scan result



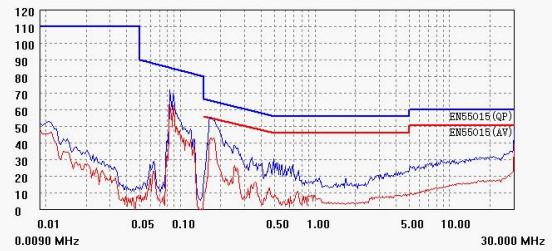
230Vac-N

EMI TEST REPORT

Organization: Operator: 2009/8/20/16:33 EUT: parameter
Place: Time: Test equipment: KH3932
Detector: PK+AV Test-time(ms): 30 SN: 1632571
Limit: EN55015 Transducer(PK/AV): PK / AV JZ: 2,14,1161
Remark:

Start(MHz) End(MHz) Step(MHz) freq, step
0.009 0.150 0.001
0.150 2.000 0.002
2.000 10.000 0.010
10.000 30.000 0.025

dBuV scan result



10) Lumen Testing

Lightsource Test Report

Product Information

Product Number: 51022

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3143$ $y=0.3376$ $u(u')=0.1957$ $v=0.3154$ $v'=0.4731$

CCT: $T_c=6366K$ ($duv=0.00676$)

Color Ratio: $R=0.134$ $G=0.808$ $B=0.057$

Peak Wavelength: 452.7nm

Half Bandwidth: 26.0nm

Dominant Wavelength: 494.6nm

Color Purity: 0.062

CRI: $R_a=84.0$

TM30: $R_f=82$, $R_g=94$

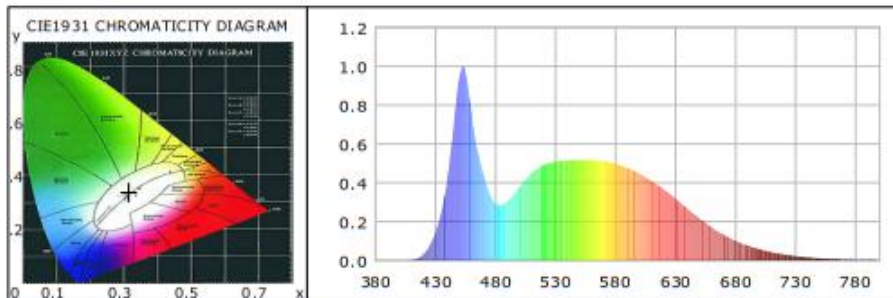
$R1=81$ $R2=89$ $R3=93$ $R4=82$ $R5=82$ $R6=84$ $R7=89$ $R8=71$

$R9=11$ $R10=73$ $R11=81$ $R12=59$ $R13=84$ $R14=96$ $R15=77$

Color Quality Scale: $Q_a=83.1$, $Q_f=83.3$, $Q_p=82.5$, $Q_g=91.0$

$Q1=84$ $Q2=99$ $Q3=81$ $Q4=75$ $Q5=80$ $Q6=82$ $Q7=86$ $Q8=90$

$Q9=97$ $Q10=89$ $Q11=86$ $Q12=85$ $Q13=84$ $Q14=73$ $Q15=78$



Photometric Parameters

Luminous Flux: 5380.18 lm
EEI: 0.11

Efficiency: 120.93 lm/W

Radiant Power: 17.317 W

Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 230.00V

Current: 0.1980A

Power: 44.49W

Power Factor: 0.9760

Frequency: 49.99Hz

Test Information

Scan Range: 380~800:1nm

Stabilization Time: 30 Min

4 π Max of Signal: 45820 (2746)

Photometric Method: sphere-spectroradiometer

Photometric Condition: Sphere diameter: 1.75m,

CCD Integration Time: 156.58 ms

Condition: $T_x:23.4^{\circ}C$, $T_i:21.1^{\circ}C$, R.H.:60%
Test Lab:
Operator:

Test Device: Inventfine CMS-25 (Plus)
Test Time: 2020-04-02 16:00:10
Inspector: