

SPECIFICATION

RF-G9CW**1J-TB2

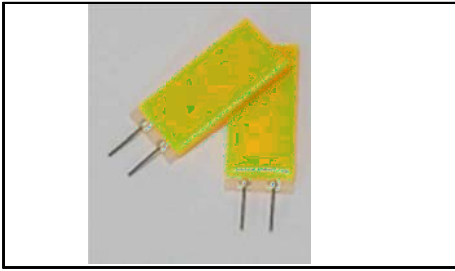
R&D

Mass Product

| | | |
|---|-------|----|
| 1.1 General Description | ..... | 3 |
| 1.2 Features | ..... | 3 |
| 1.3 Application | ..... | 3 |
| 1.4 Package Dimension | ..... | 4 |
| 1.5 Product Parameters | ..... | 5 |
| 1.5 Bin Range Of Luminous Flux and The Chromaticity Diagram (IF=10±2mA) | BIN | |
| (AC=230V)..... | ..... | 6 |
| 1.6 Typical optical characteristics curves | ..... | 8 |
| 2. Packaging | ..... | 12 |
| 2.1 Packaging Specification | ..... | 12 |
| 2.1.1 Suction box Dimension | ..... | 12 |
| 2.1.2 Label Form Specification | ..... | 13 |
| 2.2 Moisture Resistant Packing | ..... | 13 |
| 2.3 Cardboard Box | ..... | 13 |
| 2.4 Reliability Test Items And Conditions | ..... | 14 |
| 2.5 Criteria For Judging Damage | ..... | 15 |
| 3. Handling Precautions | ..... | 15 |
| 3.1 Handling Precautions | ..... | 15 |

1. Description

1.1 General Description



The White LED which was fabricated using a blue chip and the phosphor
LED

09mmX20mmX2.3mm

1.2 Features

- y Integrated Package.
- y 360° Full Angle Luminescence.
- y Suitable for spot welding process.
- y Moisture sensitivity level: Level 5.
- y RoHS compliant.

1.3 Application

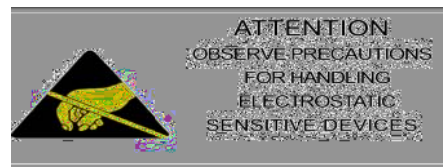
- y LED halogen lamp.
- y Decorative applications.
- y Indoor Lighting.
- y General use.

1.4 Package Dimension



W

ReversedDrawing



Notes

- 1. All dimensions units are millimeters.
- 2. All dimensions tolerances are $\pm 0.5\text{mm}$ unless otherwise noted. ± 0.5

1.5 Product Parameters

Table 1-1 Electrical / Optical Characteristics at Ts=25°C

| Item | Symbol | Test Condition | Value | | | Unit |
|-----------------------|--------|----------------|-------|-----|------|------|
| | | | Min. | Typ | Max. | |
| Forward Voltage | AC | AC230v | 225 | --- | 235 | V |
| Luminous Flux | - | AC230v | 180 | --- | 300 | lm |
| Viewing Angle | 2 1/2 | AC230v | --- | --- | 360 | deg |
| Color Rendering Index | Ra | AC230v | 80 | --- | --- | / |
| Color Rendering Index | R9 | AC230v | 0 | --- | --- | / |
| Power | P | AC230v | 1.7 | 1.9 | 2.1 | W |

Table 1-2 Absolute Maximum Ratings at Ts=25°C

| Parameter | Symbol | Rating | Units |
|-------------------------------|------------------|-----------|-------|
| Power Dissipation | P _D | 2.31 | W |
| Frequency (Hz)hE+Bh9C/ | Hz | 50 | Hz |
| Electrostatic Discharge (HBM) | E _{SD} | 2000 | V |
| Operating Temperature | T _{OPR} | -40 ~ +85 | |
| Storage Temperature | T _{OPR} | -40 ~ +85 | |
| Junction Temperature | T _J | 125 | |

Notes

- 1/10 Duty cycle, 0.1ms pulse width. 0.1ms, 1/10.
2. The above forward voltage measurement allowance tolerance is ±1V. ±1V.
3. The above color coordinates measurement allowance tolerance is 0.005. 0.005.



4. The above luminous intensity measurement allowance tolerance $\pm 10\%$.
5. Care is to be taken that power dissipation does not exceed the absolute maximum
6. All measurements were made under the standardized environment of Us.
7. When the LEDs are in operation the maximum current should be decided after measuring the junction temperature. The junction temperature should not exceed the maximum rate. LED
8. ESD yield is over 90% at 2000V ESD (HBM). ESD protection during products handling is ESD2000V.
9. The filament is a non-spectroscopic product, and the commitment batch meets the chromaticity range of more than 90 %.

1.5 Bin Range Of Luminous Flux and The Chromaticity Distribution BIN (AC=230V)

Table 1-3

| | | | |
|--------------------------|---------|-----|-------------------------|
| RF-G9CW2C1J-TB2 2200K | Rank210 | | RF-G9CW2H1J-TB2 2400 |
| | 190 | 230 | |
| RF-G9CW2R1J-TB2 2700K | Rank250 | | RF-G9CW: 270 |
| | 230 | 270 | |
| RF-G9CW3E1J-TB2 3000K | Rank260 | | RF-G9CW: 300 |
| | 240 | 280 | |
| RF-G9CW4E1J-TB2 4000K | Rank270 | | RF-G9CW: 400 |
| | 250 | 290 | |
| RF-G9CW5E1J-TB2 5000K | Rank280 | | RF-G9CW: 500 |
| | 260 | 300 | |
| RF-G9CW6E1J-TB2 | Rank280 | | RF-G9CW: |

| | | | | | |
|-------|-----|-----|-------|-----|-----|
| 6500K | 260 | 300 | 6500K | 260 | 300 |
|-------|-----|-----|-------|-----|-----|



Fig 1-3 The C.I.E Chromaticity Diagram CIE



| BIN CODE | CIE-X1 | CIE-Y1 |
|----------|--------|--------|
| 22C | 0.4845 | 0.4065 |
| 24H | 0.4675 | 0.4060 |
| 27R | 0.4395 | 0.4016 |
| 30E | 0.4227 | 0.3845 |
| 40E | 0.3649 | 0.3595 |
| 50E | 0.3360 | 0.3383 |
| 65E | 0.3068 | 0.3208 |
| 27K | 0.4394 | 0.3914 |
| 30S | 0.4169 | 0.3842 |
| 40S | 0.3671 | 0.3583 |
| 50S | 0.3358 | 0.3355 |
| 65S | 0.3067 | 0.3119 |

1.6 Typical optical

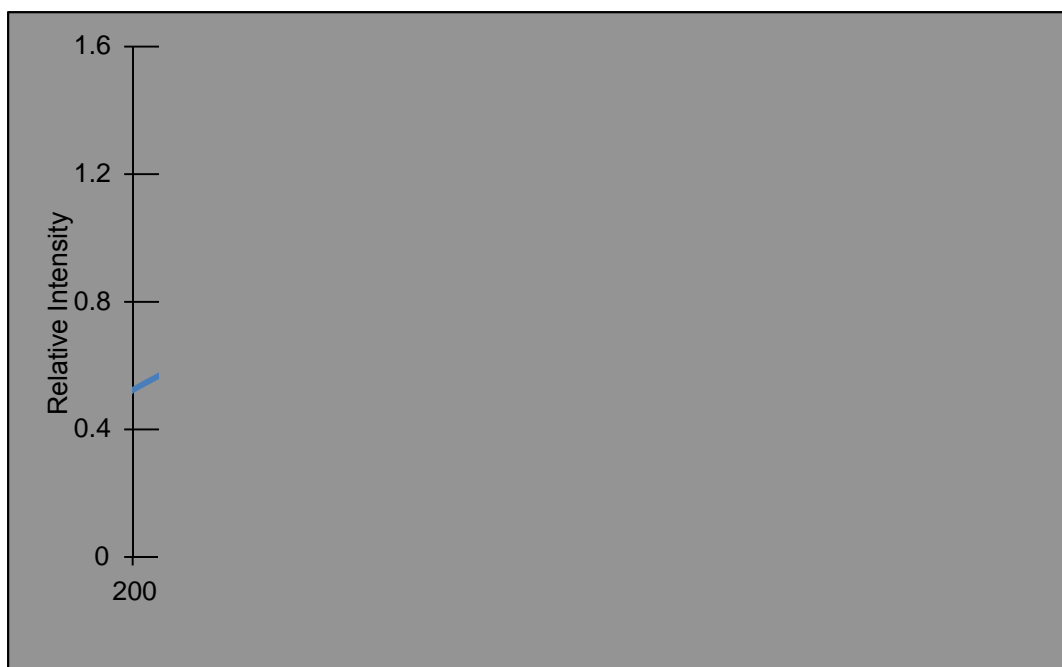


Fig 1-1F

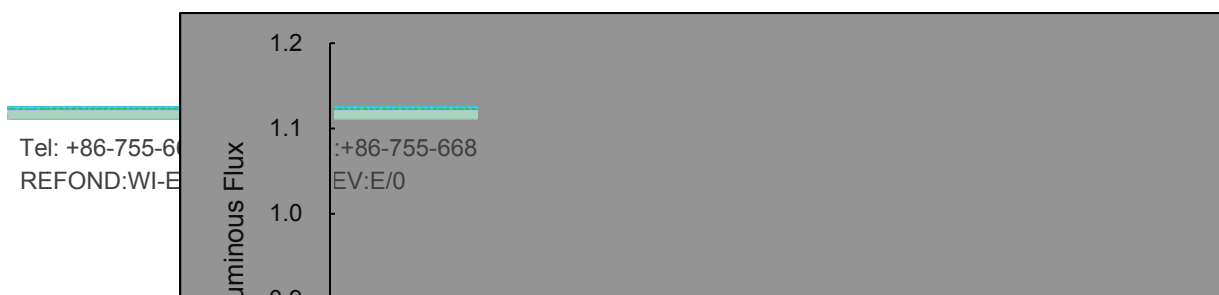




Fig 1-2 Ambient Temperature Vs.

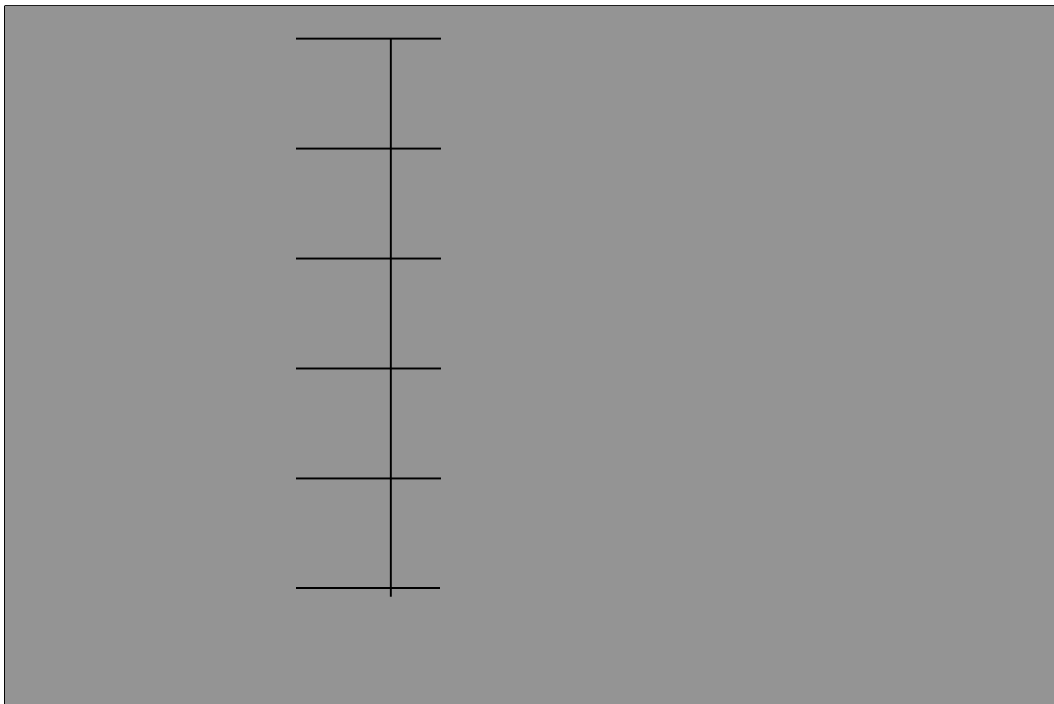


Fig 1-3 Central surface temperature Vs

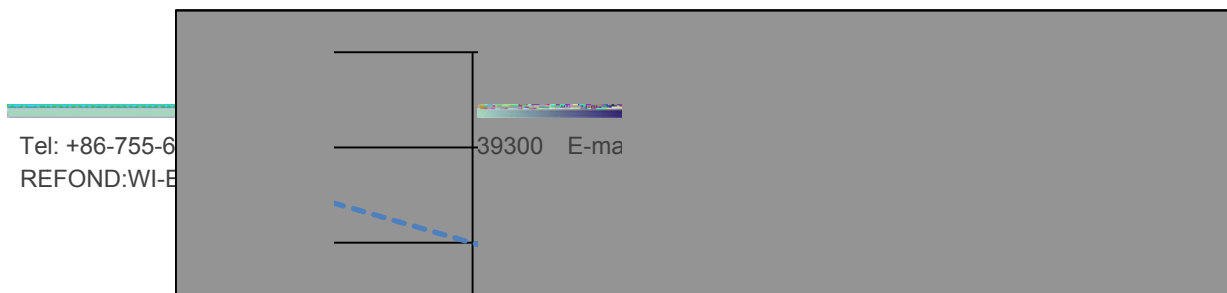
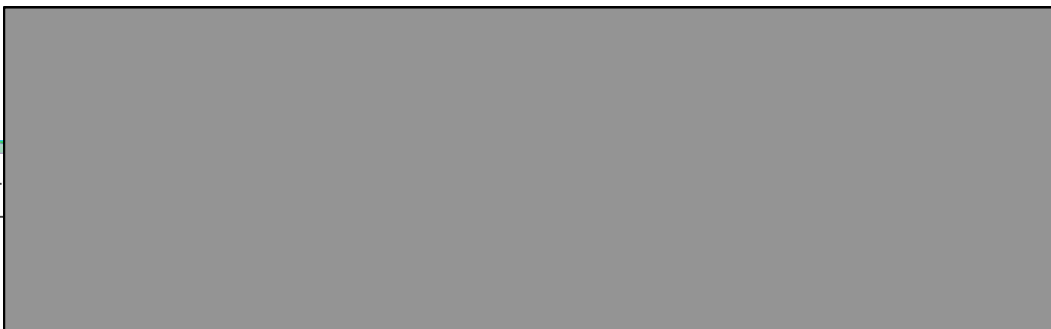


Fig 1-4 Forward Voltage Vs Central surface temperature



Fig 1-5 Central surface temperature Vs Forward Current



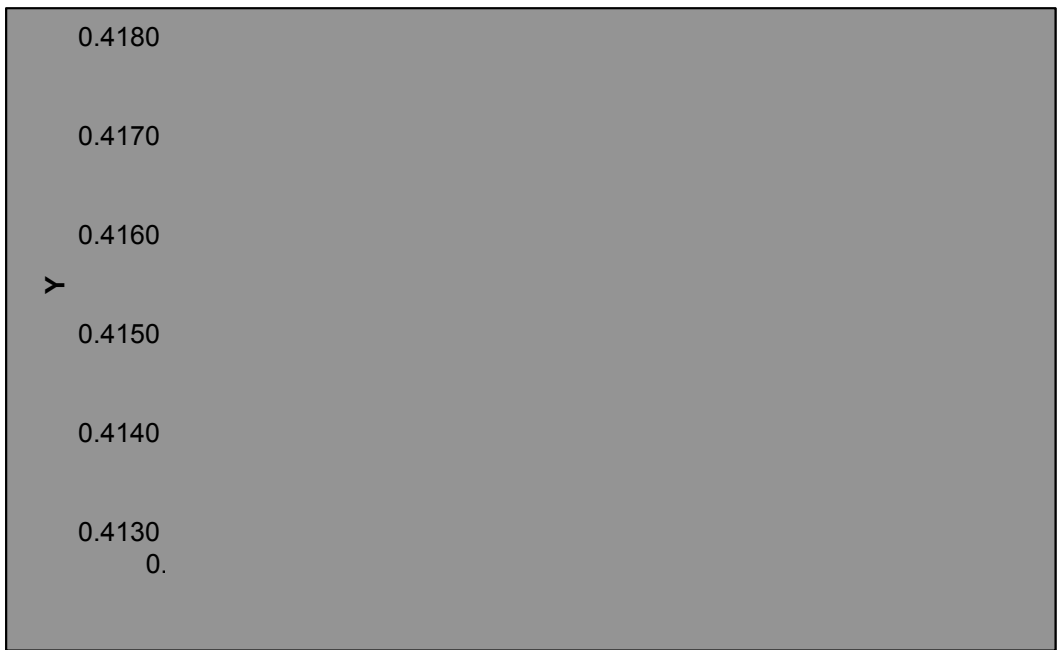


Fig 1-7Chromaticit



Fig 1-8 Spectrum Distribution

2. Packaging

2.1 Packaging Specification

Package: 50pcs/box. 50pcs

2.1.1 Suction box Dimension

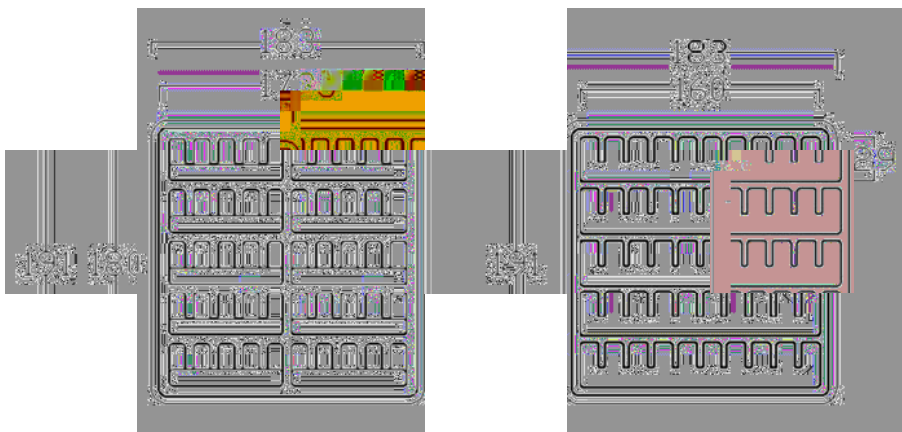



Fig.2-1 Suction box Dimension

Notes

The tolerances unless mentioned $\pm 0.1\text{mm}$. Unit : mm ± 0.1 ;"L +â+ "ý õpÉ;" L

2.1.2 Label Form Specification :- N \S:Ë

Table 2-2 label :-N

| | | |
|--------------------|-----------|---|
| xñ=0 P/N Ö | |  |
| Bom ' S/N: | | |
| ©IQ' L/N | | |
| Bin Code: | 8çj X/Y Ö | |
| yFJGÿ -: | n7 Ra: | |
| +e » Vf Ö | Gÿ QTY: | |
| | o DATE: | |
| Web:www.refond.com | | |

| | |
|----------------|-----------------------------|
| P/ N | Part Number !6'P&œL• |
| S/N | Spec Number \S:Ë |
| L/N | Lot Number 5 =°&† |
| Bin Code | Bin Code &Qÿ!rJ• |
| N | Luminous flux #Øb©d^ |
| X/Y | Chromaticity Bin U %É |
| V _F | Forward Voltage =ò& G&A |
| Ra | Color Rendering Index 8Í 5- |
| QTY | Packing Quantity 7ÿd^ |
| DATE | Made Date G©8t9© |

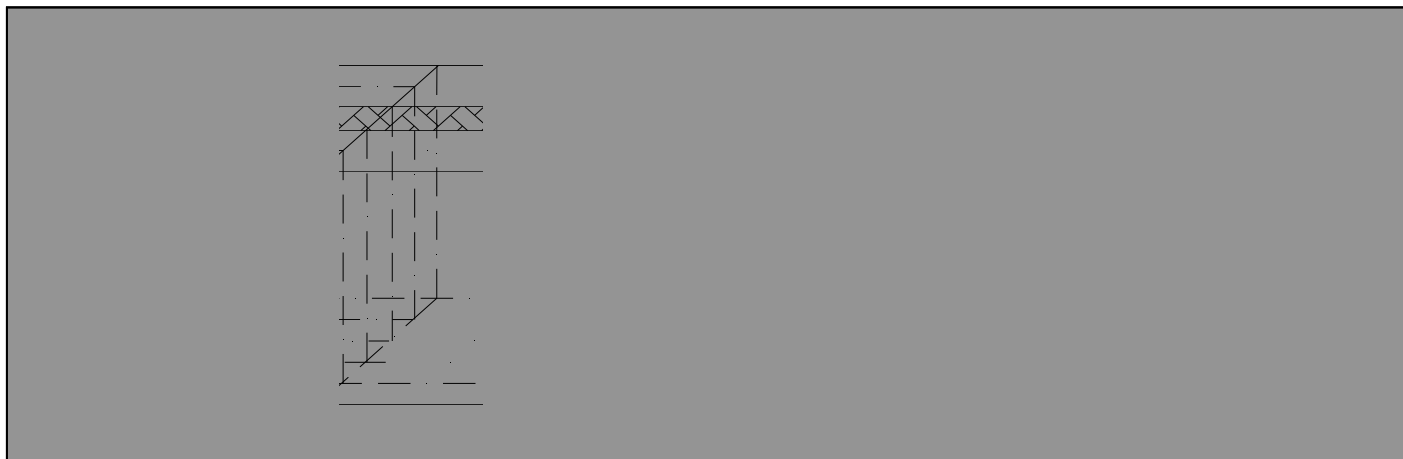
Fig 2-2 label :- N

2.2 Moisture Resistant Packing hÁÁÿ%"[T



Fig.2-3Moisture Resistant Packing hÁÁÿ%"[T

2.3 Cardboard Box %"[TQ©(



2.4 Reliability Test Items Ai

Table 2-3 Reliabil

| TestItems | Ref. |
|----------------|------------|
| Thermal Shock | JEIT/ 3 |
| Switching Test | |
| Life Test | JESI |



High Temperature
High Humidity Life Test

2.5 Criteria For Judgment

| |
|--------------------------|
| Test Items |
| Power Input |
| Luminous Flux by FJGy |

Notes

- 1.U.S.L: Upper
- 2.The Reliability
- 3.The technical examples of the of any license.

3.1 Handling

(1) LED operation
LED mating use

or endorsement.LED

LED

100PPM.

(2) In order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM,the single content of Chlorine element is required to be less than 900PPM,the total content of Bromine element and Chlorine element in the external materials of the application products is required to be less than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement.

LED

LED

900PPM

900PPM

1500PPM.

(3) VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues. We advise against the use of any chemicals or materials that have been found or are suspected to have an adverse effect on device performance or reliability. To verify compatibility, We recommend that all chemicals and materials be tested in the specific application and environment for which they are intended to be used. Attaching LEDs, do not use adhesives that outgas organic vapor.

LED

LED

LED

LED

(4) Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry.

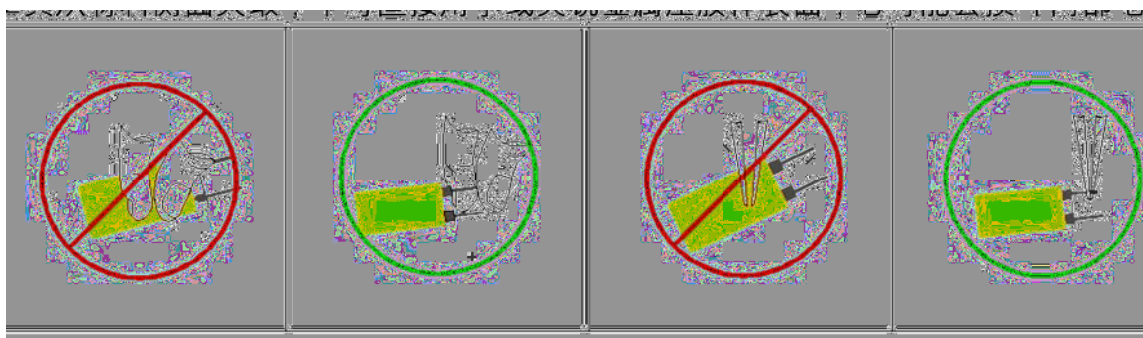




Fig 4-1Clip filament specification

(5) In designing a circuit,the current through each LED must be exceed the absolute maximum rating specified for each LED.In the meanwhile,resistors for protection should be applied,otherwise slight voltage shift will cause big current change,burn out may happen. The driving circuit must be designed to allow forward voltage only when it is ON or OFF.If the reverse voltage is applied to LED, migration can be generated resulting in LED damage.

LED

LED

(6) Thermal Design is paramount importance because heat generation may result in the Characteristics decline,such as brightness decreased,Color change and so on.Please consider the heat generation of the LEDs when making the system design.LED

LED

(7) Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust»requiring special care during processing. In cases where a minimal level of dirt and dust particles cannot be guaranteed, a suitable cleaning solution must be applied to the surface after the soldering of components. We suggests using isopropyl alcohol for cleaning. In case other solvents are used, it must be assured that these solvents do not dissolve the package or resin. Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED.

LED

Table 4-1 Storage

| Conditions | Temperature | Humidity | Time |
|------------|-------------|----------|------|
| | | | |



Ve

| Date |
|------|
| |
| |
| |
| |
| |
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| |

De
Thi