

承 认 书

SPECIFICATION

| 蓝 晋 光 电 | 客 户 资 料 |
|------------------|-----------------|
| 产品名称: SMD LED | 客 户: |
| 产品型号:B1608SB6ZQC | 机 型: |
| 规格描述: 0603蓝光 | 日 期: 2016年9月27日 |

| | |
|------|------|
| 设 计: | 日 期: |
| 审 核: | |
| 批 准: | 承 办: |

| 客 户 确 认 | |
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| 签 名: | 日 期: |
| 结 论: | |

■ Features

- P-LCC-4 package White package.
- White package.
- Optical indicator.
- Colorless clear window.
- Pb free.
- The product itself will remain within RoHs compliant version

■ Descriptions

- The 0603 series is available in soft orange, green, blue and yellow .
 Due to the package design, the LED has wideviewing angle and optimized light coupling by inter reflector. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

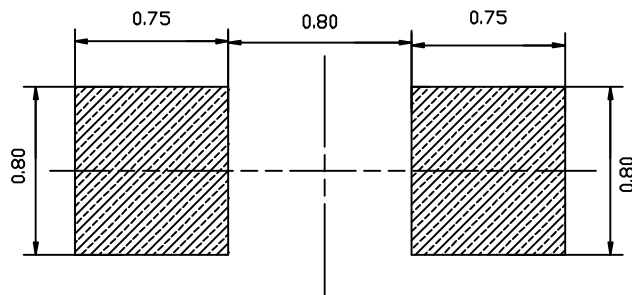
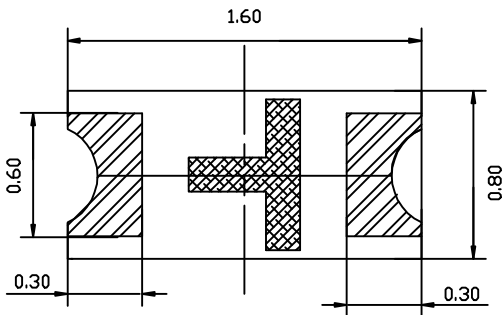
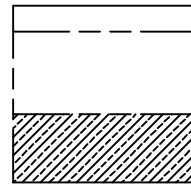
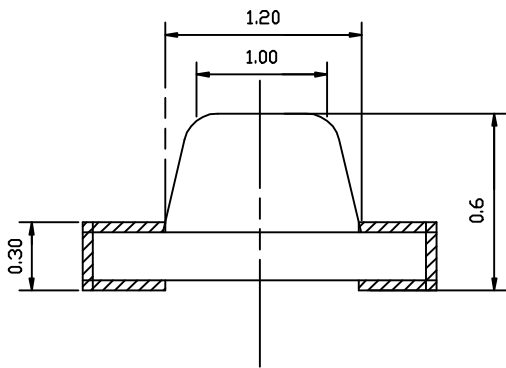
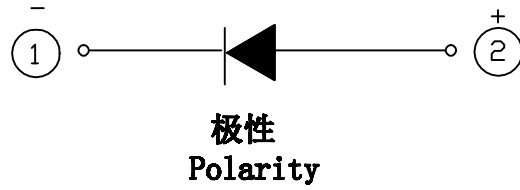
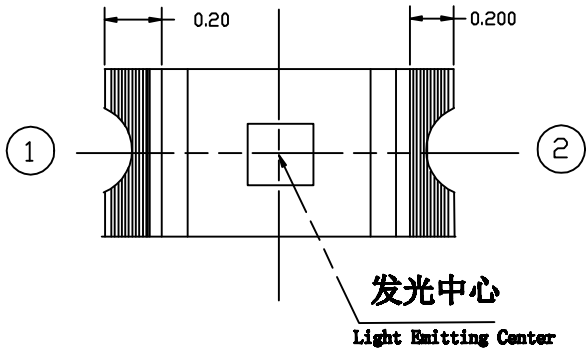
■ Applications

- Telecommunication, indicator and backlighting in telephone and fax.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

■ Device Selection Guide

| Chip | | | Lens Color |
|-------------|----------|---------------|-------------|
| Type | Material | Emitted Color | |
| B1608SB6ZQC | GaInP | BLUE | Water Clear |

■ Package Outline Dimensions



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$; Unit = mm

■ Absolute Maximum Ratings($t_a=25^{\circ}\text{C}$)

| ITEMS | SYMBOL | Rating | | UNIT |
|---------------------------------------|--------|------------------------------------|------|------|
| Reverse Voltage | VR | 5 | | V |
| Forward Current | If | B | 20 | MA |
| Operation Temperature | Topt | -40~ +85 | | °C |
| Storage Temperature | Tstg | -40~ +100 | | °C |
| Electrostatic Discharge(HBM) | ESD | B | 2000 | V |
| Power Dissipation | Pt | B | 80 | MW |
| Peak Forward Current(Duty 1/10 @1KHZ) | IFP | B | 70 | MA |
| Soldering Temperature | Tsol | Reflow Soldering :260°C for 10 sec | | |

■ Absolute Maximum Ratings($t_a=25^{\circ}\text{C}$)

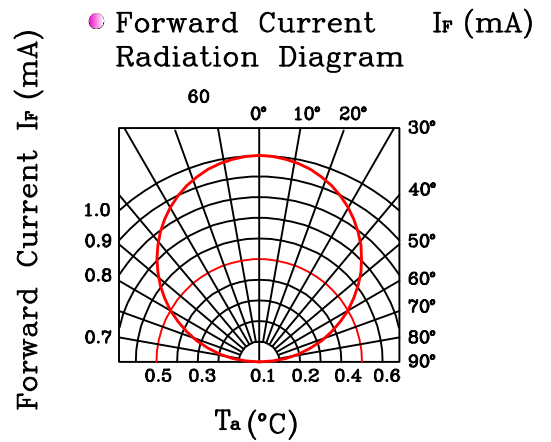
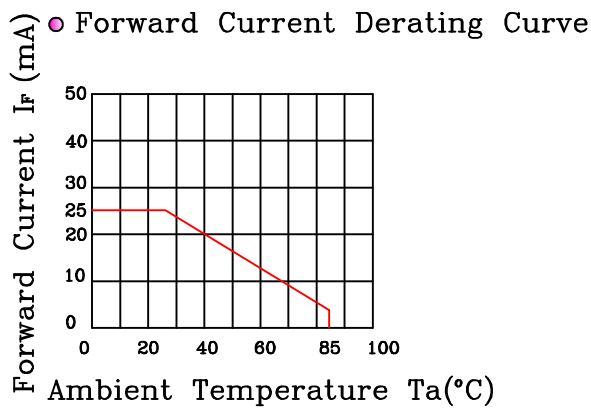
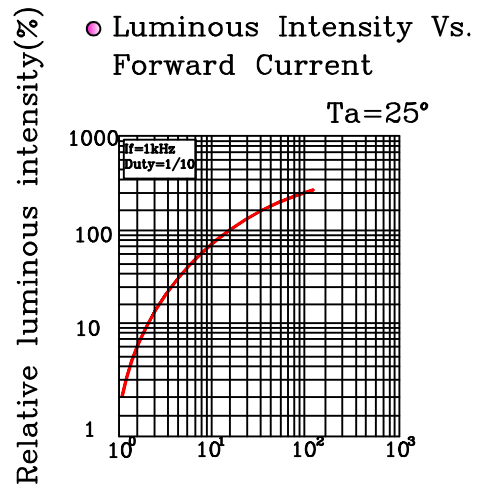
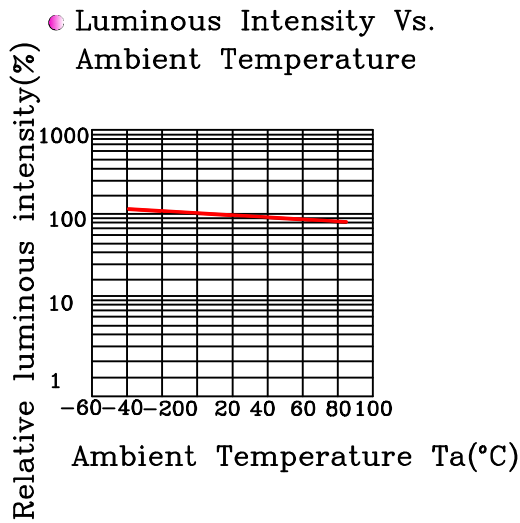
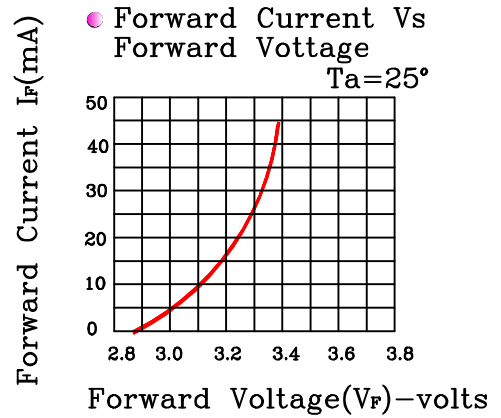
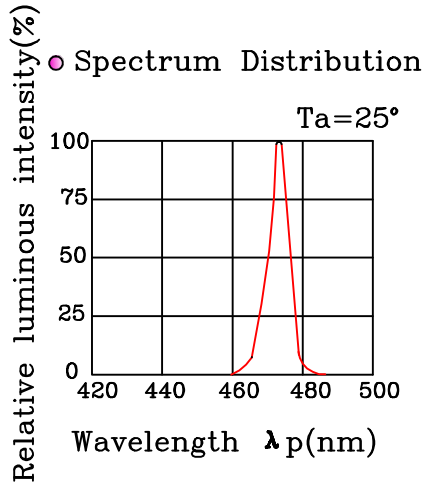
| Parameter | Symbol | | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|------------------|---|------|------|------|------|-----------|
| Luminous Intensity | I_v | B | --- | 110 | --- | mcd | IF=20mA |
| Peak Wavelength | λ_P | B | — | 469 | — | nm | IF=20mA |
| Dominant Wavelength | λ_d | B | 466 | — | 472 | nm | IF=20mA |
| Spectrum Radiation Bandwidth | $\Delta \lambda$ | B | — | 20 | — | nm | IF=20mA |
| Forward Voltage | V_F | B | 2.8 | 3.0 | 3.4 | v | IF=20mA |
| Viewing Angle | 2 θ 1/2 | | — | 120 | — | deg | IF=20mA |
| Reverse Current | I_R | B | — | — | 5 | uA | VR=5v |

■*For each die

Notes:

- 1.Tolerance of Luminous Intensity $\pm 3\%$
- 2.Tolerance of Dominant Wavelength $\pm 1\text{nm}$
- 3.Tolerance of Forward Voltage $\pm 0.03\text{V}$

■ Typical Electrical–Optical Characteristics Curves(B)



The reliability of products shall be satisfied with items listed below.
 Confidence level:90%

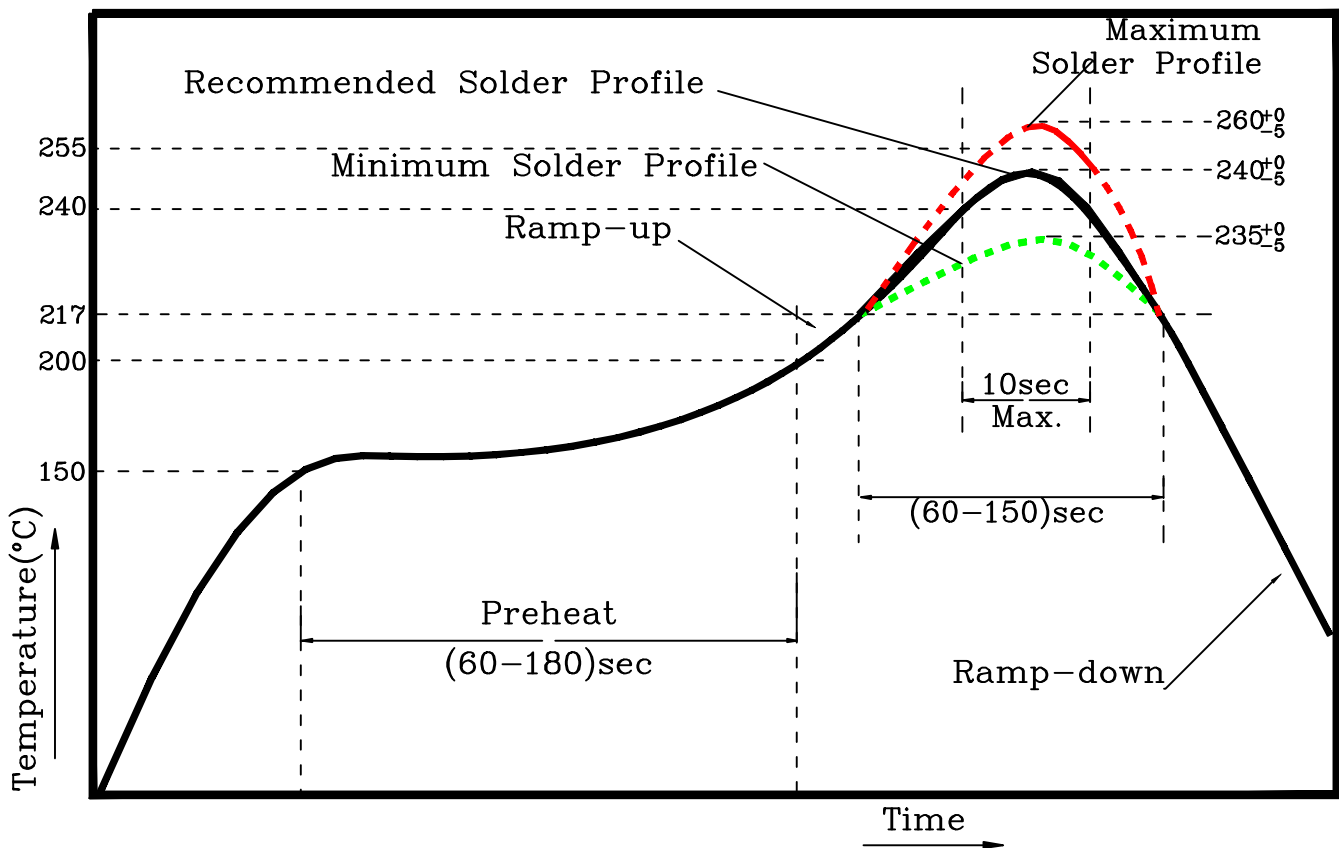
LTPD:10%

| NO | Items | Test Condition | Test Hours/Cycles | Sample Size | Ac/Re |
|----|--------------------------------|--|-------------------|-------------|-------|
| 1 | Reflow Soldering | Temp: 260±5°C | 6min | 22 PCS | 0/1 |
| 2 | Temperature Cycle | H:+100°C15min ∫ 5min L:-40°C15min | 300 Cycles | 22 PCS | 0/1 |
| 3 | Thermal Shock | H:+100°C 5min ∫ 10sec L:-10°C 5min | 300 Cycles | 22 PCS | 0/1 |
| 4 | High Temperature Storage | Temp :100°C | 1000 Hrs | 22 PCS | 0/1 |
| 5 | LowTemperature Storage | Temp :-40°C | 1000 Hrs | 22 PCS | 0/1 |
| 6 | DC Operating Life | IF=20mA | 1000 Hrs | 22 PCS | 0/1 |
| 7 | High Temperature High Humidity | 85°C/85%RH | 1000 Hrs | 22 PCS | 0/1 |

■ Guideline for Soldering(1)

● Reflow Soldering

Use the conditions shown in the under Figure of Pb-Free Reflow Soldering.



- Reflow soldering should not be done more than two times .
- Stress on the LEDs should be avoided during heating in soldering process
- After soldering, do not deal with the product before its temperature drop down to room temperature.

■Precautions(1)

● Storage

Moisture proof and anti- electrostatic package with moisture absorbent material is used , to keep moisture to a minimum

Before opening the package,the product should be kept at 30°C or less and humidity less than 60%Rh,and be used within a year.

Afer opening the package,the product should be stoted at 30 or less and humidity less than 10%RH,and be soldered within 24 hours.It is recommended that the product be operated at the workshop condition of 30°C or less and humidity less than 60%RH

If the moisture absorbent material has fade away or the LEDS have exceeded the storage time,baking treatment.should be performed based on the following condition:(60+5C) for 12 hours.

● Static Electricity

Static electricity or surge voltage damages the LEDs . Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current . even not lihgt

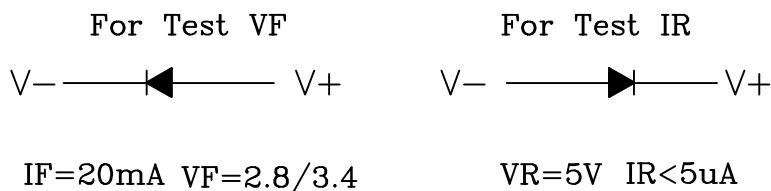
All devices, equipment and machinery must be properly grounded. At the same time, it is recommended that wrist bands or anti-electrostatic gloves,anti-electrostatic containers be used when dealing with the LEDs.

■ Precautions(2)

○ Design Consideration

In designing a circuit, the current through each LED must not 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.

It is recommended to use Circuit A which regulates the current flowing through each LED rather than Circuit B. in forward voltage (V_f) of the LEDs. In the worst case, some LED may be subjected to stresses in excess of the Absolute Maximum Rating



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