0603 SMD Chip LED - Orange

RoHS Compliant

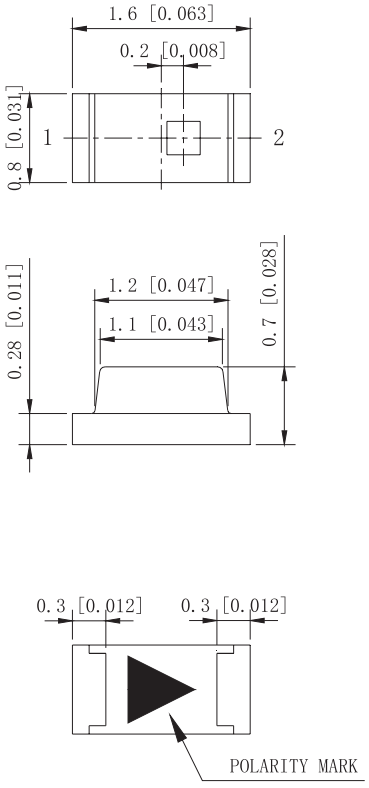
Features

- Dimensions: 1.6mm × 0.8mm × 0.7mm
- Wide Viewing Angle.

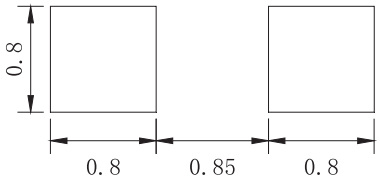
Applications

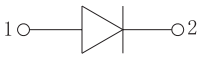
- Automotive: backlighting in dashoard and switch
- Telecommunication: indicator and backlighting in telephone and fax
- Flat backlight for LCD switch and sysmbol

Package Dimensions



Recommended soldering pattern





Dimensions : Millimetres

Notes

1. All dimensions are in millimeters.
2. Tolerance is ±0.25 unless otherwise noted.
3. Specifications are subject to change without notice.

Device Selection Guide

Part No.	Chip Material	Emitting Colour
MP007091	(InGaAlP)	ORANGE

Absolute Maximum Ratings at T_A=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	65	mW
Forward Current	I_F	25	mA
Peak Forward Current*1	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40°C To +85°C	
Storage Temperature	T_{stg}	-40°C To +85°C	

Notes:
*1: Pulse width≤0.1ms, Duty cycle≤1/10

Optical / Electrical Characteristics at T_A=25°C

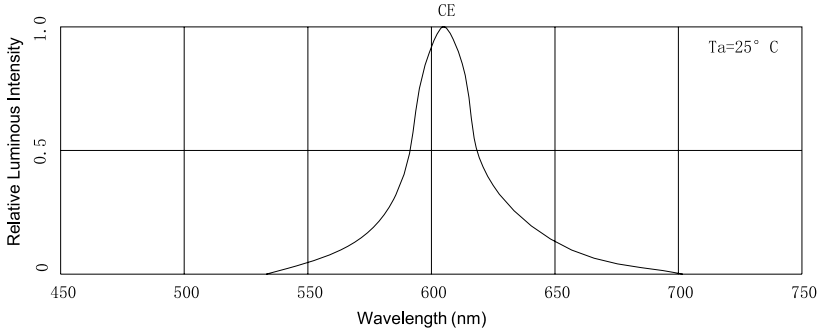
Parameter	Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage (one circuit)	V_F	1.8	—	2.6	V	IF=20mA
Reverse Current (one circuit)	I_R	—	—	10	μA	VR=5V
Dominate Wavelength	λ_D	601	—	613	nm	IF=20mA
Luminous Intensity	I_V	100	—	295	mcd	IF=20mA
Viewing Angle	2θ1/2	—	120	—	Deg.	IF=20mA

Remarks:
If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or dominate wavelength), the typical accuracy of the sorting process is as follows:
1. Dominate Wavelength : ±1nm
2. Luminous Intensity: ±15%
3. Forward Voltage: ±0.1V

Typical Electrical/Optical Characteristics Curves

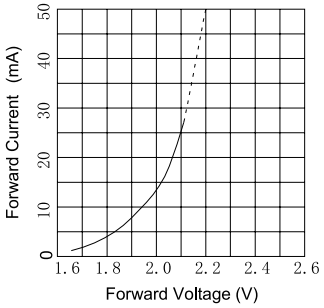
Relstive Spectral Distribution

CE



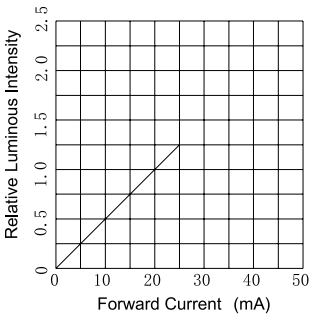
Volt-Ampere Characteristics

VF-IF



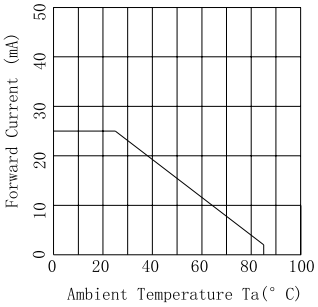
Forward Current VS. Relative Intensity

IF-IV



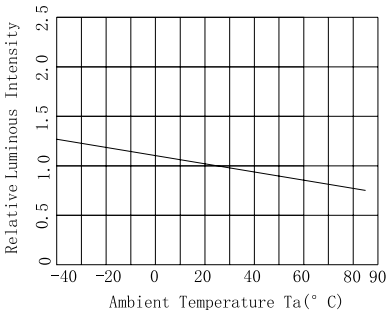
Ambient Temperature VS. Forward Current

Ta-IF

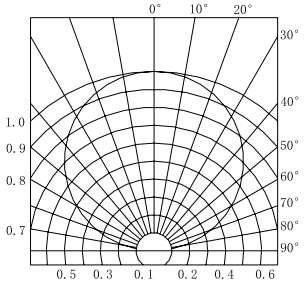


Ambient Temperature VS. Relative Intensity

Ta-IV

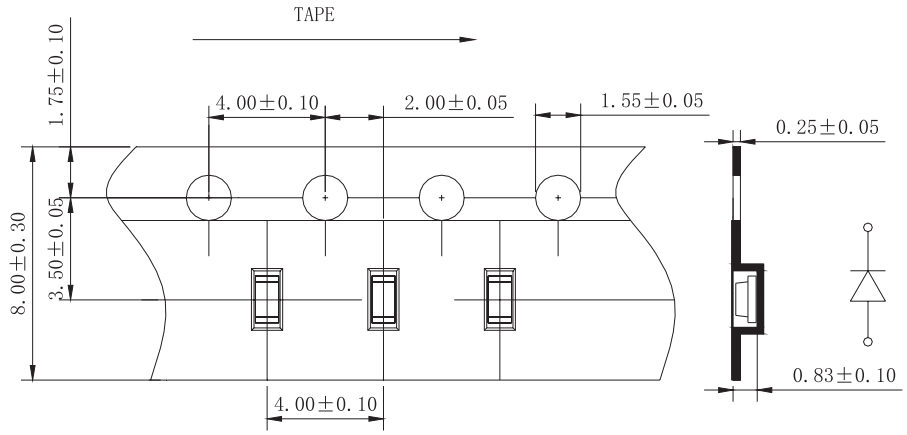


Radiation Diagram



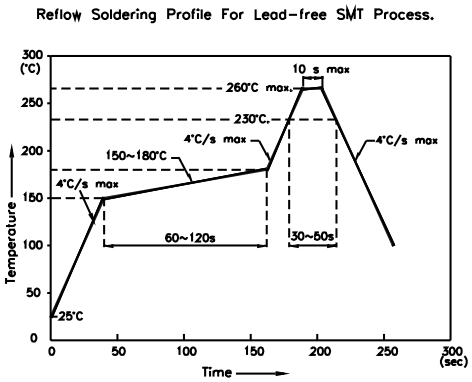
Dimensions : Millimetres

Tape specifications



Soldering Profile

Dimensions : Millimetres



Notes

1. We recommend the reflow temperature 245°C. (±5°C) The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.
The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.

Cleaning

- Led should be cleaned in a normal temperature and the time for cleaning should be less than 3 minutes; please use Alcohol as cleaner ,before you use other cleaning solvent ,please make sure that the cleaner will not make any damage to the LED performance or the appearance .
- Ultrasonic Cleaning is also commonly used for cleaning LED , please verify the Ultrasonic cleaning's Power and time to avoid any damage to the LED.

Storage

- Storage condition before opening the package: 5°C to 30°C, the largest percentage relative humidity is 60% and the storage period is one month. The LEDs beyond the storge period just can be used after dealing as step 4.
- After opening the package, If the LEDs will be Infrared reflow soldering, Oxygen phase reflow soldering or any other welding.
  a. must be welding within 24 hours.
  b. the storage humidity must be below 30% .
- If the situation does not satisfy 2a or 2b, the LEDs must be roasted.
- If the LEDs need to be roasted, the roast temperature should be 60°C+/-3 and the roast timeshould be 48 hours.

Part Number Table

Description	Part Number
Chip LED, Orange, 120°, 295mcd, 0603	MP007091