**ROUND TYPE LED LAMPS**

Lead-Free Parts

# LEE2063-PF

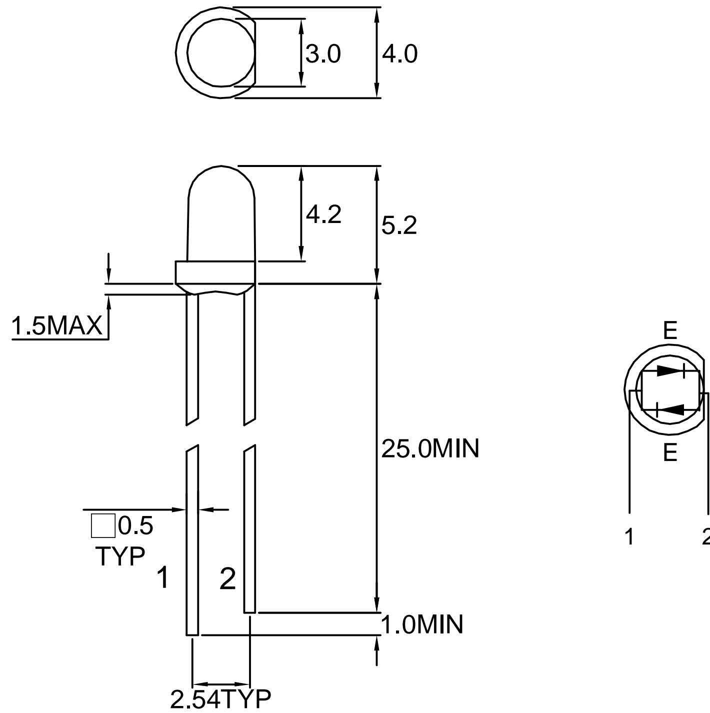
# DATA SHEET

DOC. NO : QW0905-LEE2063-PF

REV. : A

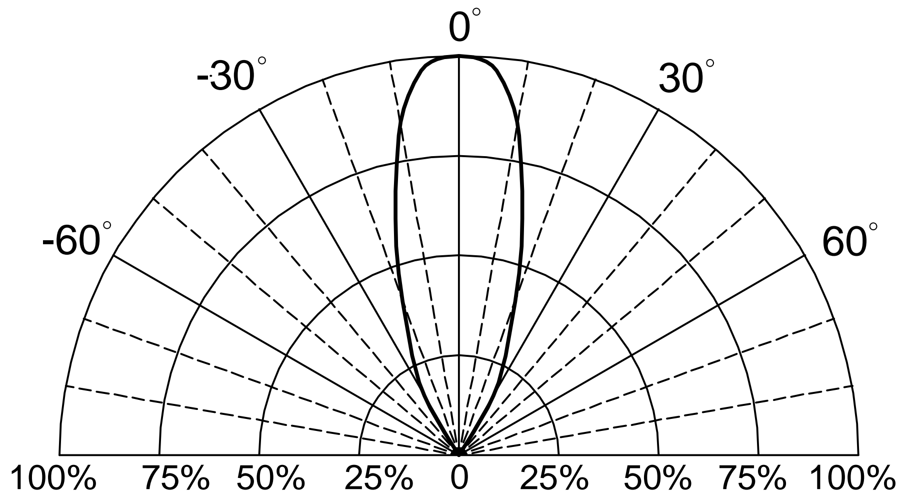
DATE : 18 - Aug.- 2006

## Package Dimensions




Note : 1.All dimension are in millimeter tolerance is ±0.25mm unless otherwise noted.
2.Specifications are subject to change without notice.

## Directivity Radiation



## Absolute Maximum Ratings at Ta=25 ℃

| Parameter | Symbol | Ratings | UNIT |
|---|---|---|---|
| | | E | |
| Forward Current | $I_F$ | 30 | mA |
| Peak Forward Current Duty 1/10@10KHz | $I_{FP}$ | 120 | mA |
| Power Dissipation | PD | 100 | mW |
| Reverse Current @5V | Ir | 10 | μA |
| Operating Temperature | $T_{opr}$ | -40 ~ +85 | ℃ |
| Storage Temperature | Tstg | -40 ~ +100 | ℃ |

## Typical Electrical & Optical Characteristics (Ta=25 ℃)

| PART NO | MATERIAL | COLOR | | Peak wave length λ Pnm | Spectral halfwidth △λ nm | Forward voltage @20mA(V) | | Luminous intensity @10mA(mcd) | | Viewing angle 2θ 1/2 (deg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Emitted | Lens | | | Min. | Max. | Min. | Typ. | |
| LEE2063-PF | GaAsP/GaP | Orange | Water Clear | 635 | 45 | 1.7 | 2.6 | 1.8 | 4.5 | 38 |
| | GaAsP/GaP | Orange | | 635 | 45 | 1.7 | 2.6 | 1.8 | 4.5 | 38 |

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.
2. The luminous intensity data did not including ±15% testing tolerance.

## Typical Electro-Optical Characteristics Curve

E CHIP

Fig.1 Forward current vs. Forward Voltage

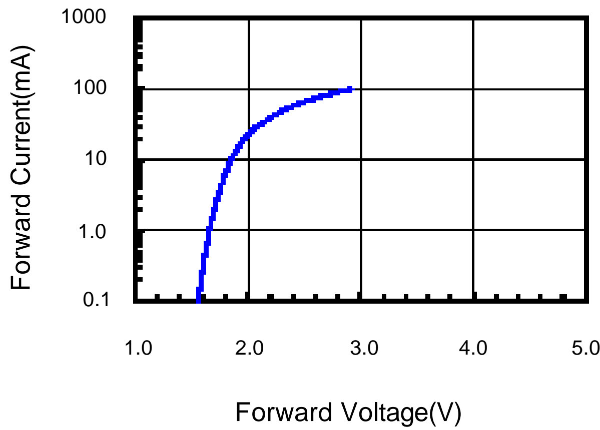



Fig.2 Relative Intensity vs. Forward Current

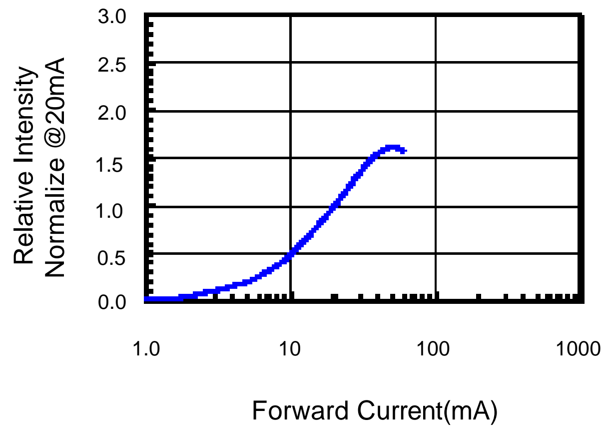



Fig.3 Forward Voltage vs. Temperature

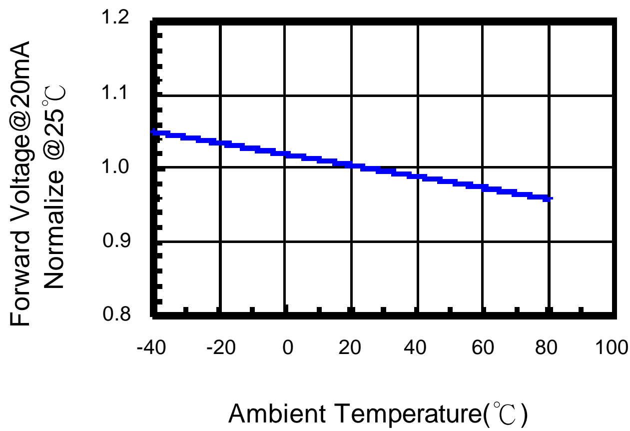



Fig.4 Relative Intensity vs. Temperature

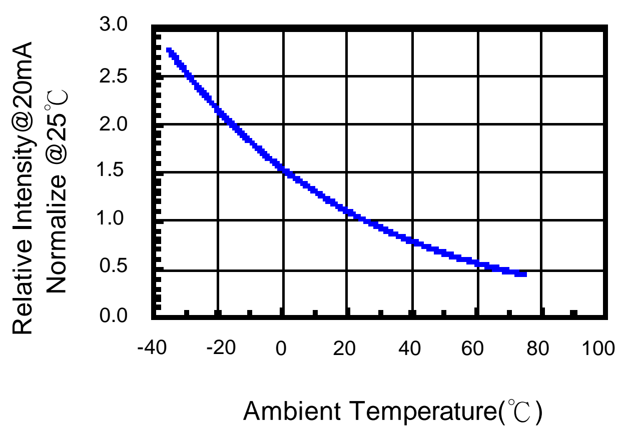
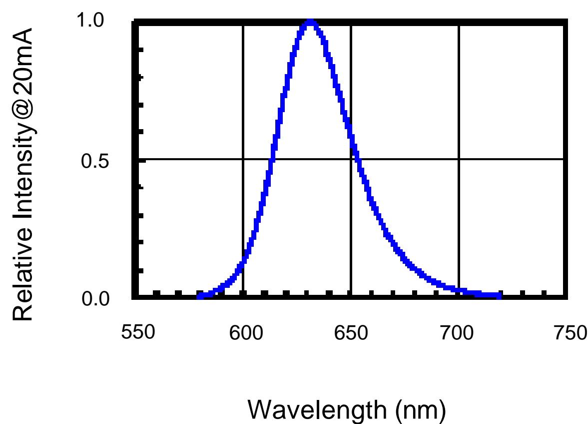



Fig.5 Relative Intensity vs. Wavelength



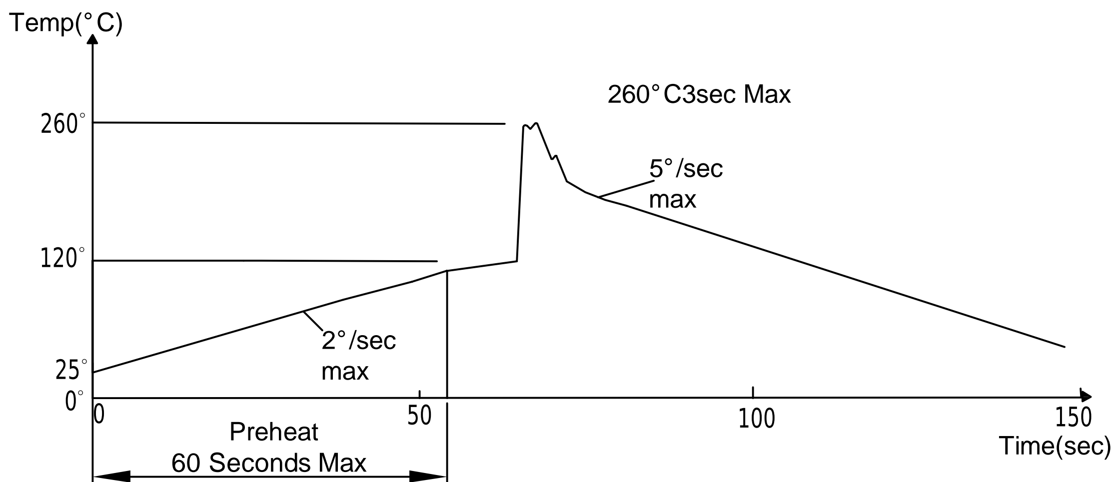
## Soldering Condition(Pb-Free)

1.Iron:

Soldering Iron:30W Max
Temperature 350°C Max
Soldering Time:3 Seconds Max(One Time)
Distance:2mm Min(From solder joint to body)

2.Wave Soldering Profile

Dip Soldering
Preheat: 120°C Max
Preheat time: 60seconds Max
Ramp-up
2°C/sec(max)
Ramp-Down:-5°C/sec(max)
Solder Bath:260°C Max
Dipping Time:3 seconds Max
Distance:2mm Min(From solder joint to body)



# Reliability Test:

| Test Item | Test Condition | Description | Reference Standard |
|---|---|---|---|
| Operating Life Test | 1.Under Room Temperature<br>2.If=20mA<br>3.t=1000 hrs (-24hrs, +72hrs) | This test is conducted for the purpose of detemining the resistance of a part in electrical and themal stressed. | MIL-STD-750: 1026<br>MIL-STD-883: 1005<br>JIS C 7021: B-1 |
| High Temperature Storage Test | 1.Ta=105℃±5℃<br>2.t=1000 hrs (-24hrs, +72hrs) | The purpose of this is the resistance of the device which is laid under condition of high temperature for hours. | MIL-STD-883:1008<br>JIS C 7021: B-10 |
| Low Temperature Storage Test | 1.Ta=-40℃±5℃<br>2.t=1000 hrs (-24hrs, +72hrs) | The purpose of this is the resistance of the device which is laid under condition of low temperature for hours. | JIS C 7021: B-12 |
| High Temperature High Humidity Test | 1.Ta=65℃±5℃<br>2.RH=90%~95%<br>3.t=240hrs±2hrs | The purpose of this test is the resistance of the device under tropical for hours. | MIL-STD-202:103B<br>JIS C 7021: B-11 |
| Thermal Shock Test | 1.Ta=105℃±5℃&-40℃±5℃<br>(10min) (10min)<br>2.total 10 cycles | The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature. | MIL-STD-202: 107D<br>MIL-STD-750: 1051<br>MIL-STD-883: 1011 |
| Solder Resistance Test | 1.T.Sol=260℃±5℃<br>2.Dwell time= 10±1sec. | This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire. | MIL-STD-202: 210A<br>MIL-STD-750: 2031<br>JIS C 7021: A-1 |
| Solderability Test | 1.T.Sol=230℃±5℃<br>2.Dwell time=5±1sec | This test intended to see soldering well performed or not. | MIL-STD-202: 208D<br>MIL-STD-750: 2026<br>MIL-STD-883: 2003<br>JIS C 7021: A-2 |