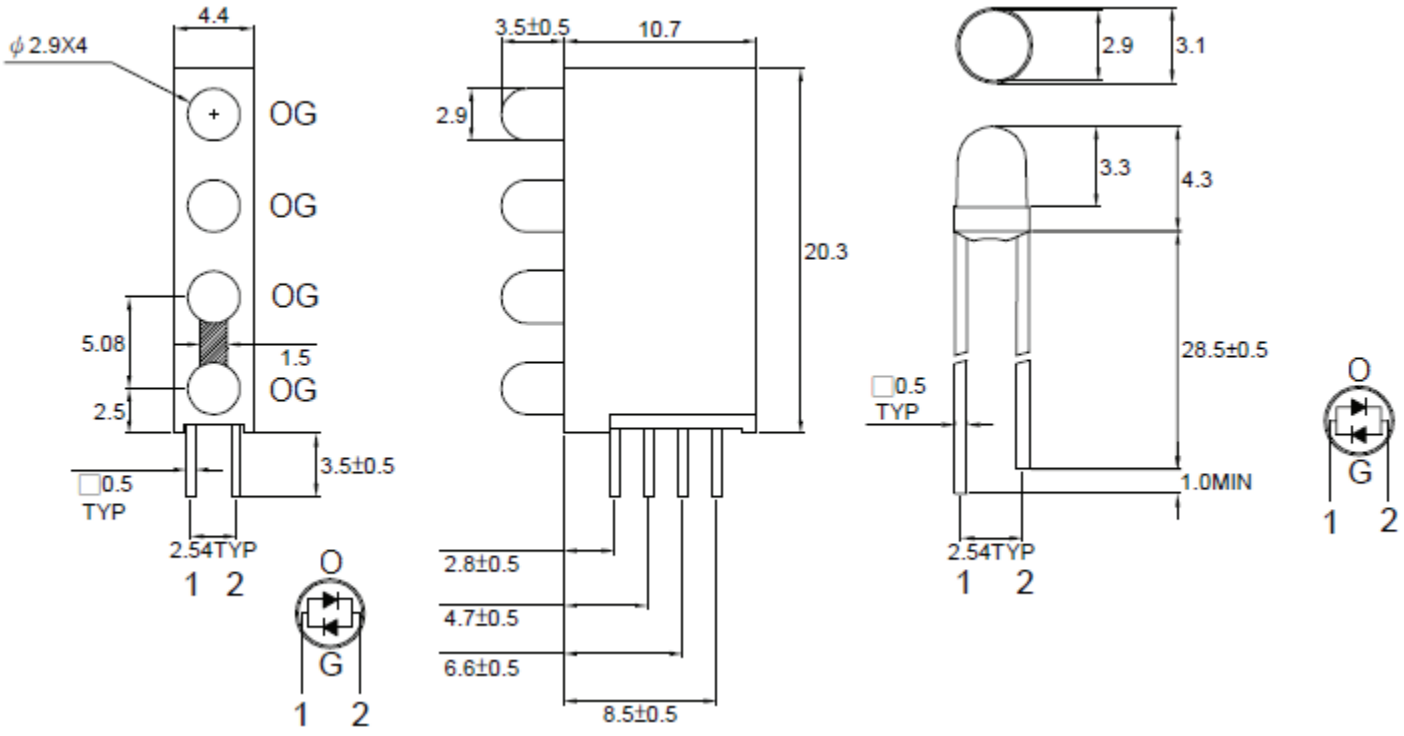
## SPECIFICATION (VERSION 1.1) CBQB33RGW

### PACKAGE OUTLINES




Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm (0.01”) unless otherwised noted.
3. Specifications are subject to change without notice.

| Part Number | Chip Material | Color of Emission | Lens Type | Viewing Angle |
|---|---|---|---|---|
| CBQB33RGW | GaP | Red | White Diffused | 50° |
| | GaP | Green | White Diffused | 50° |

## ABSOLUTE MAXIMUM RATINGS (TA=25°C)

| Parameter | Symbol | Max Rating | Unit |
|---|---|---|---|
| Forward Current | IF | 30 | mA |
| Reverse Current @ 5V | IR | 10 | μA |
| Power Dissipation | Pd | 100 | mW |
| Operating Temperature Range | TOP | -40~+85 | °C |
| Storage Temperature Range | TSTG | -40~+100 | °C |
| Peak Pulsing Current (1/10 duty f = 10KHz) | IFP | 100 | mA |
| Soldering Temperature | TSOL | Max 260°C for 5 sec Max | |

## OPTICAL-ELECTRICAL CHARACTERISTICS (TA=25°C)

| Parameter | Symbol | Test Condition | Color | Value | | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | Min | Typ | Max | |
| Luminous Intensity | Iv | IF = 10mA | Red | 8 | 18 | - | mcd |
| | | | Green | 10 | 20 | | |
| Forward Voltage | VF | IF =20mA | Red | - | 2.0 | 2.6 | V |
| | | | Green | - | 2.1 | 2.6 | |
| Viewing Angle at 50% Iv | 2θ1/2 | IF = 20mA | - | - | 50 | - | Deg |
| Peak Wavelength | λP | IF = 20mA | Red | - | 635 | - | nm |
| | | | Green | | 565 | | |

*Tolerance of viewing angle: -10 / +5 deg.

RoHS Compliant Lead Free

*ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com*

## OPTICAL CHARACTERISTIC CURVES - RED

Fig.1 Forward current vs. Forward Voltage

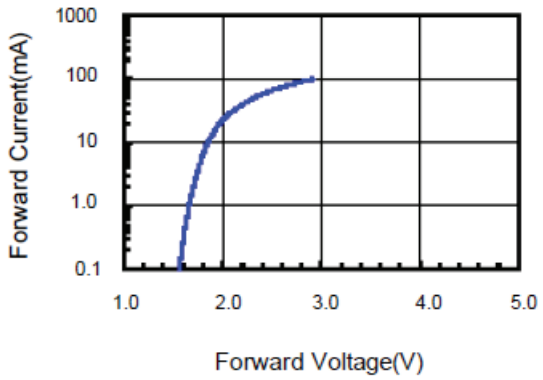



Fig.2 Relative Intensity vs. Forward Current

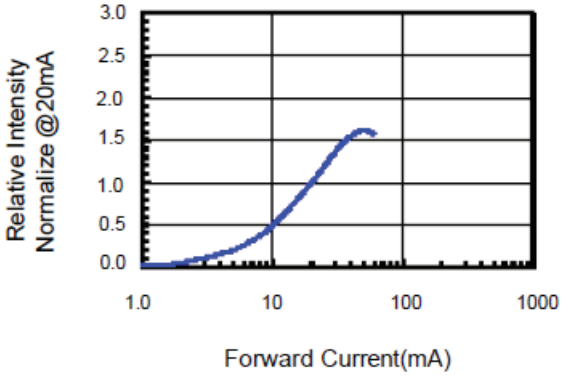



Fig.3 Forward Voltage vs. Temperature

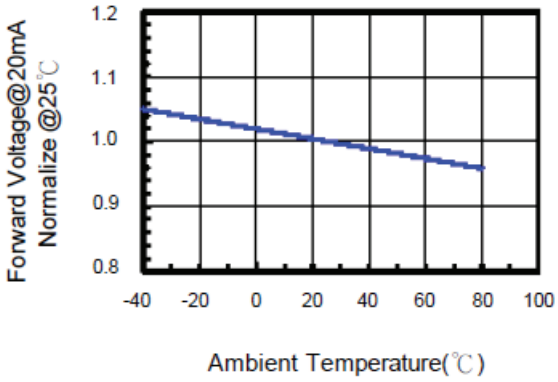



Fig.4 Relative Intensity vs. Temperature

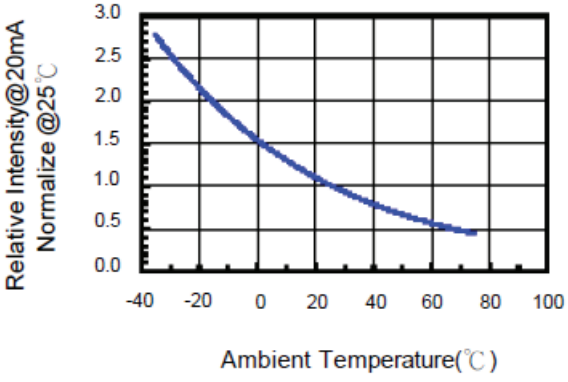
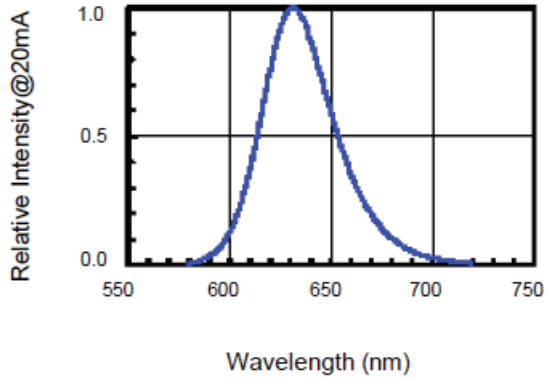



Fig.5 Relative Intensity vs. Wavelength



## OPTICAL CHARACTERISTIC CURVES - GREEN

Fig.1 Forward current vs. Forward Voltage

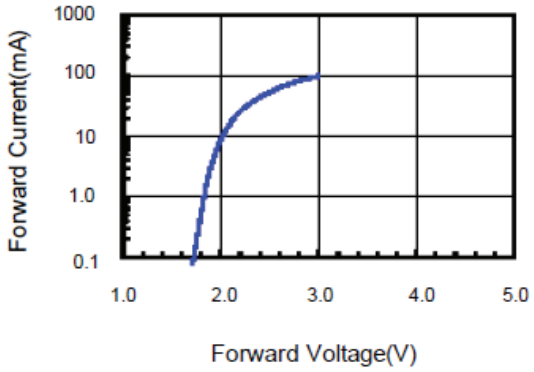



Fig.2 Relative Intensity vs. Forward Current

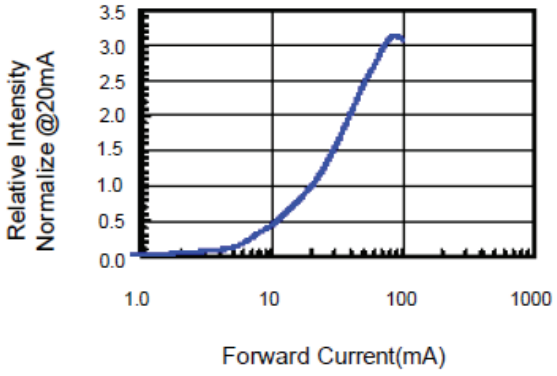



Fig.3 Forward Voltage vs. Temperature

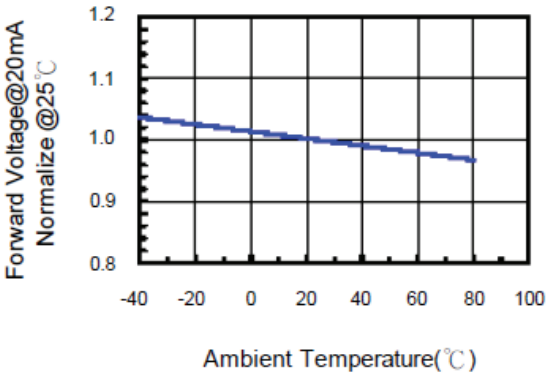



Fig.4 Relative Intensity vs. Temperature

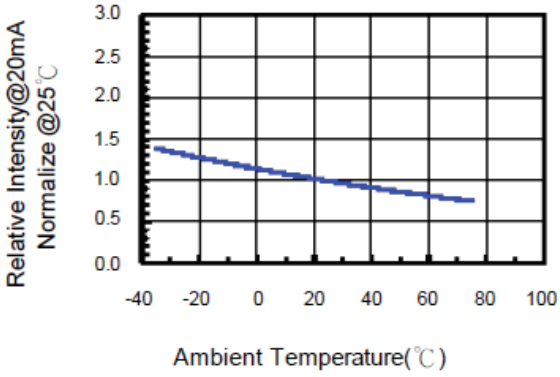
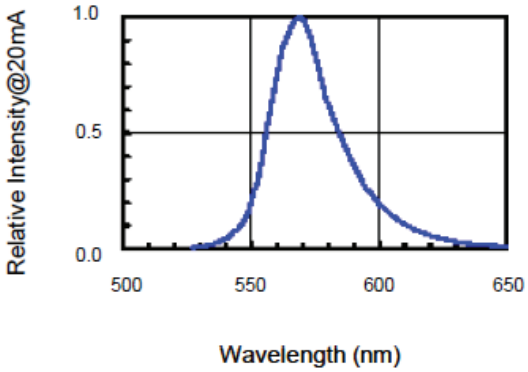



Fig.5 Relative Intensity vs. Wavelength



# SOLDERING CONDITIONS

## SOLDERING CONDITIONS – LAMP TYPE LED

- Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended.
- Recommended soldering conditions.

| Dip Soldering | |
|---|---|
| **Pre-Heat** | 100℃ Max. |
| **Pre-Heat Time** | 60 sec. Max. |
| **Solder Bath Temperature** | 260℃ Max. |
| **Dipping Time** | 5 sec. Max. |
| **Dipping Position** | No lower than 3mm from the base of the epoxy bulb. |

| Hand Soldering | | |
|---|---|---|
| | **3Ø Series** | **Others (Including Lead-Free Solder)** |
| **Temperature** | 300℃ Max. | 350℃ Max. |
| **Soldering time** | 3 sec. Max. | 3 sec. Max. |
| **Position** | No closer than 3mm from the base of the epoxy bulb. | No closer than 3mm from the base of the epoxy bulb. |

- Do not apply any stress to the lead, particularly when heated
- The LEDs must not be repositioned after soldering
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused by the PC board warping or from the clinching and cutting of the leadframes. When it is absolutely necessary, the LEDs may be mounted in this fashion, but the User will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. AOP's LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LED leadframes at room temperature. Cutting the leadframes at high temperatures may cause LED failure.