

**Feature:**

- Color Diffused lens
- Packed in Bulk, available in tape/reel
- Super bright 4mm oval lamp
- AllnGaP Red, InGaN Green/Blue
- 110/60 °viewing angle

**Application:**

- Electronic signs and electronics board
- LED lighting

**Certification & Compliance:**

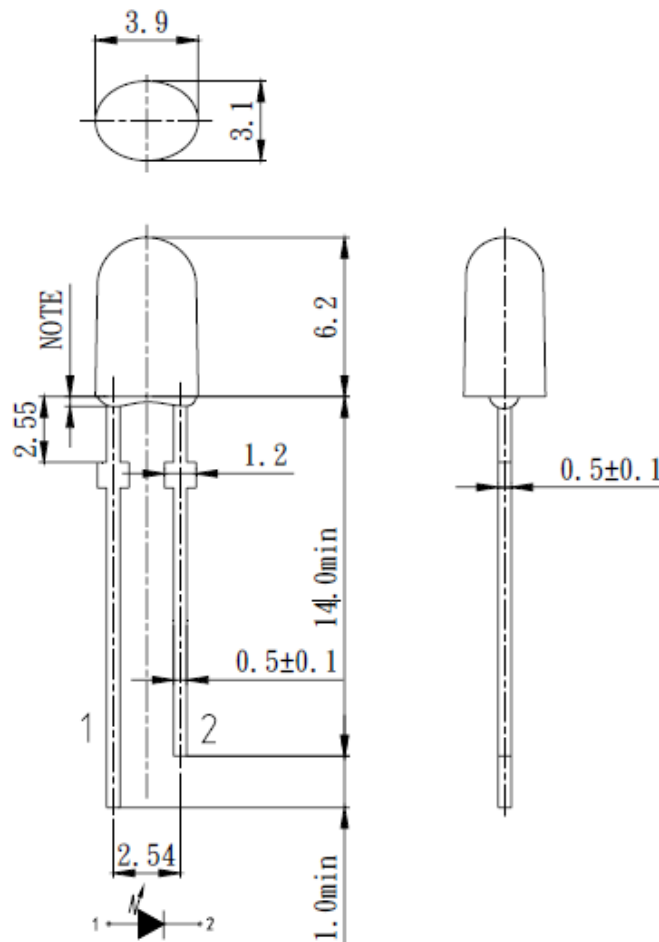
- TS16949
- ISO9001
- RoHS Compliant

**Description:**

These super bright 4mm oval lamps with 6.2mm lens height are suitable for all applications requiring higher brightness.



**Dimension:**



Units: mm / tolerance = +/-0.25mm

**Electrical / Optical Characteristic (T=25 °C)**

| Product    | Color      | I <sub>F</sub> (mA) | V <sub>F</sub> (V) |     | λ(nm)          |                |    | I <sub>V</sub> (mcd) |      |
|------------|------------|---------------------|--------------------|-----|----------------|----------------|----|----------------------|------|
|            |            |                     | Typ.               | max | λ <sub>D</sub> | λ <sub>P</sub> | Δλ | min                  | typ. |
| QBOL4R60D  | Red        | 20                  | 2.0                | 2.6 | 624            | 630            | -- | 600                  | 1000 |
| QBOL4IG60D | True Green | 20                  | 3.2                | 3.6 | 525            | 520            | -- | 2160                 | 3200 |
| QBOL4IB60D | Blue       | 20                  | 3.2                | 3.6 | 470            | 468            | -- | 420                  | 620  |

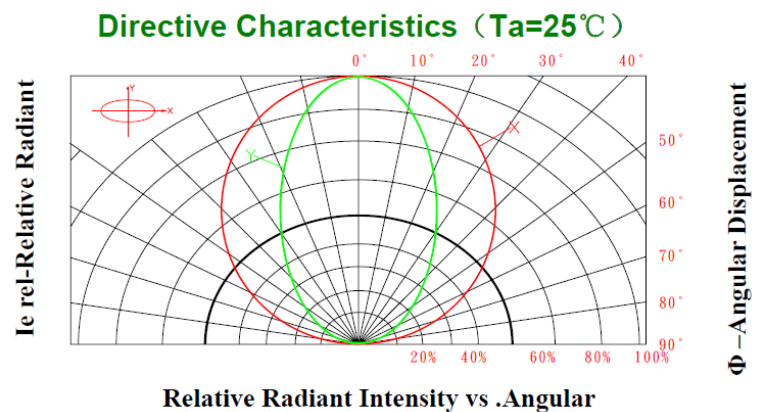
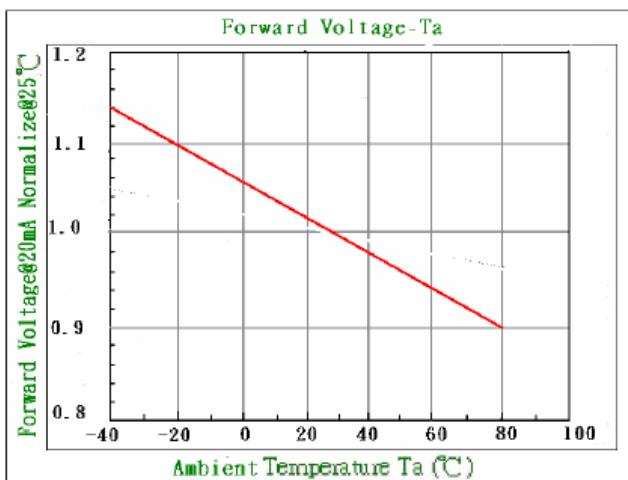
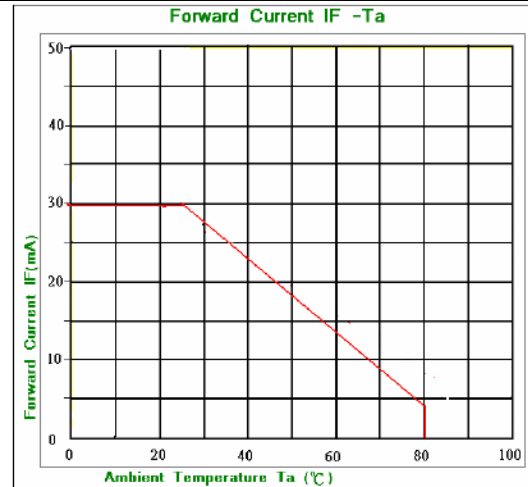
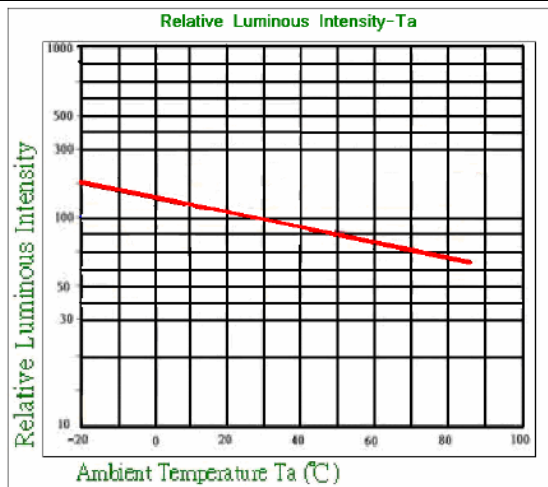
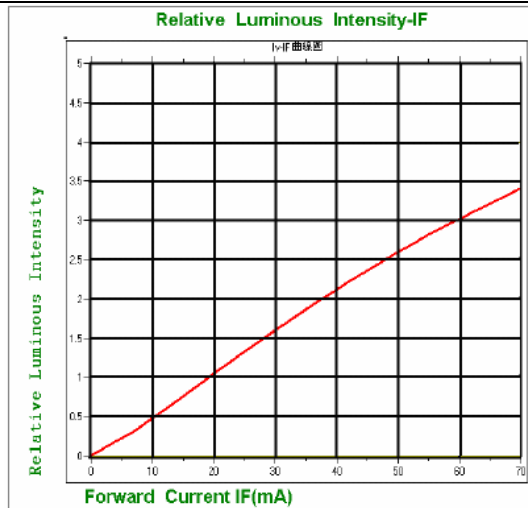
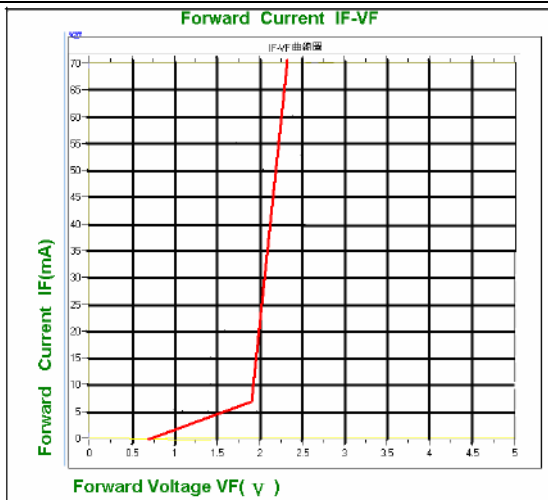
**Absolute Maximum Rating**

| Part #     | Color      | P <sub>d</sub> (mW) | I <sub>F</sub> (mA) | V <sub>R</sub> (V) | T <sub>OP</sub> (°C) | T <sub>ST</sub> (°C) |
|------------|------------|---------------------|---------------------|--------------------|----------------------|----------------------|
| QBOL4R60D  | Red        | 90                  | 30                  | 5                  | -30 to + 80          | -40 to +100          |
| QBOL4IG60D | True Green | 110                 | 30                  | 5                  | -30 to + 80          | -40 to +100          |
| QBOL4IB60D | Blue       | 110                 | 30                  | 5                  | -30 to + 80          | -40 to +100          |

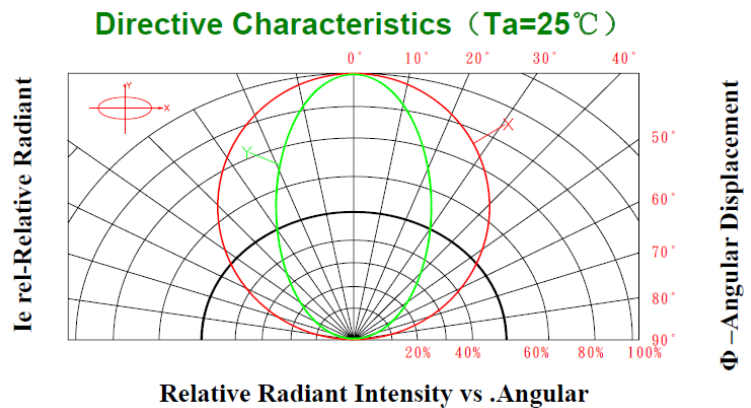
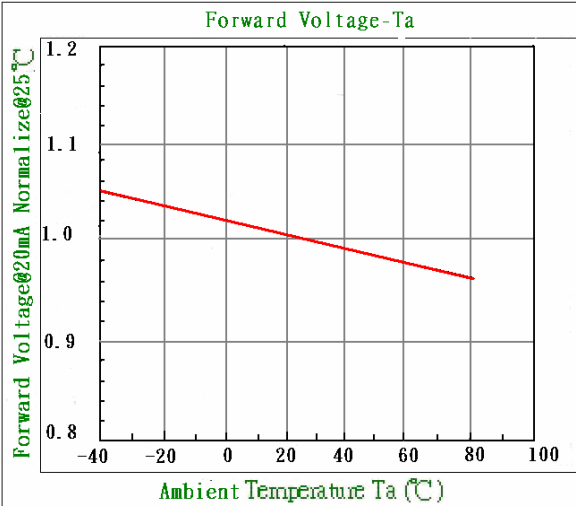
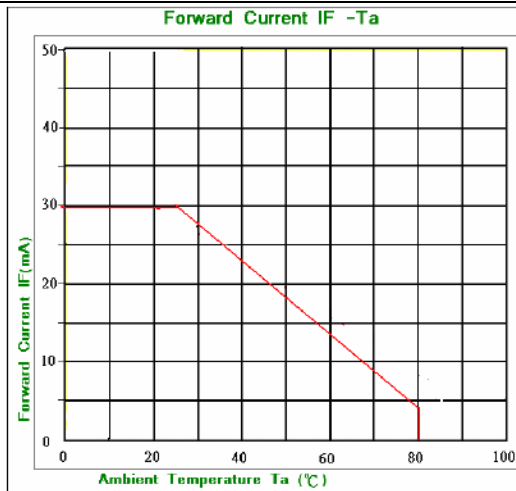
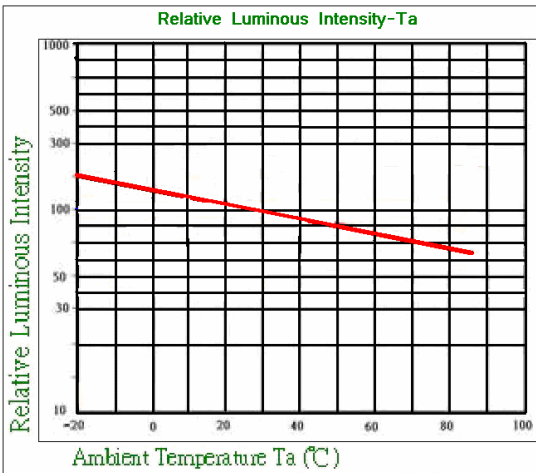
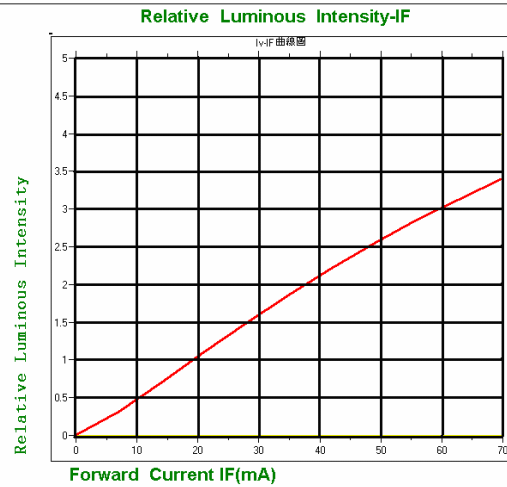
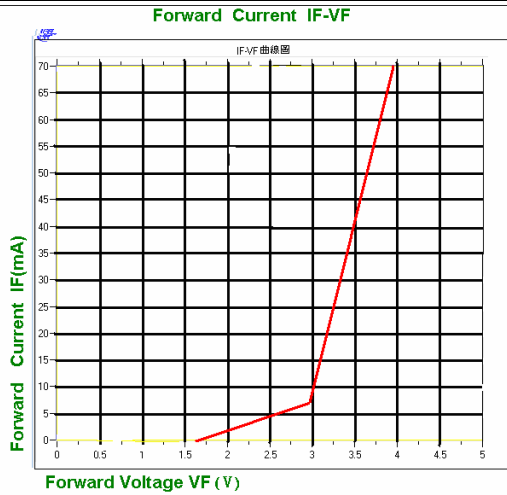
\*Duty 1/10 @ 1KHz

\*\* Wave Soldering for no more than 5 sec @ 260 °C

# Characteristic Curves for AlInGaP:



**Characteristic Curves for InGaN:**



**Ordering Information:**

| Part #     | Orderable Part # | Spec Range      | Quantity per bag |
|------------|------------------|-----------------|------------------|
| QBOL4R60D  | QBOL4R60D        | lv=1000mcd typ. | TBD              |
| QBOL4IG60D | QBOL4IG60D       | lv=3200mcd typ. | TBD              |
| QBOL4IB6D  | QBOL4IB60D       | lv=620 mcd typ. | TBD              |

**Revision History:**

| Description:                    | Revision # | Revision Date |
|---------------------------------|------------|---------------|
| New Release of QBOL4X60D Series | V1.0       | 04/19/2011    |
|                                 |            |               |
|                                 |            |               |
|                                 |            |               |
|                                 |            |               |