

Part No. **AL-314OR1C**

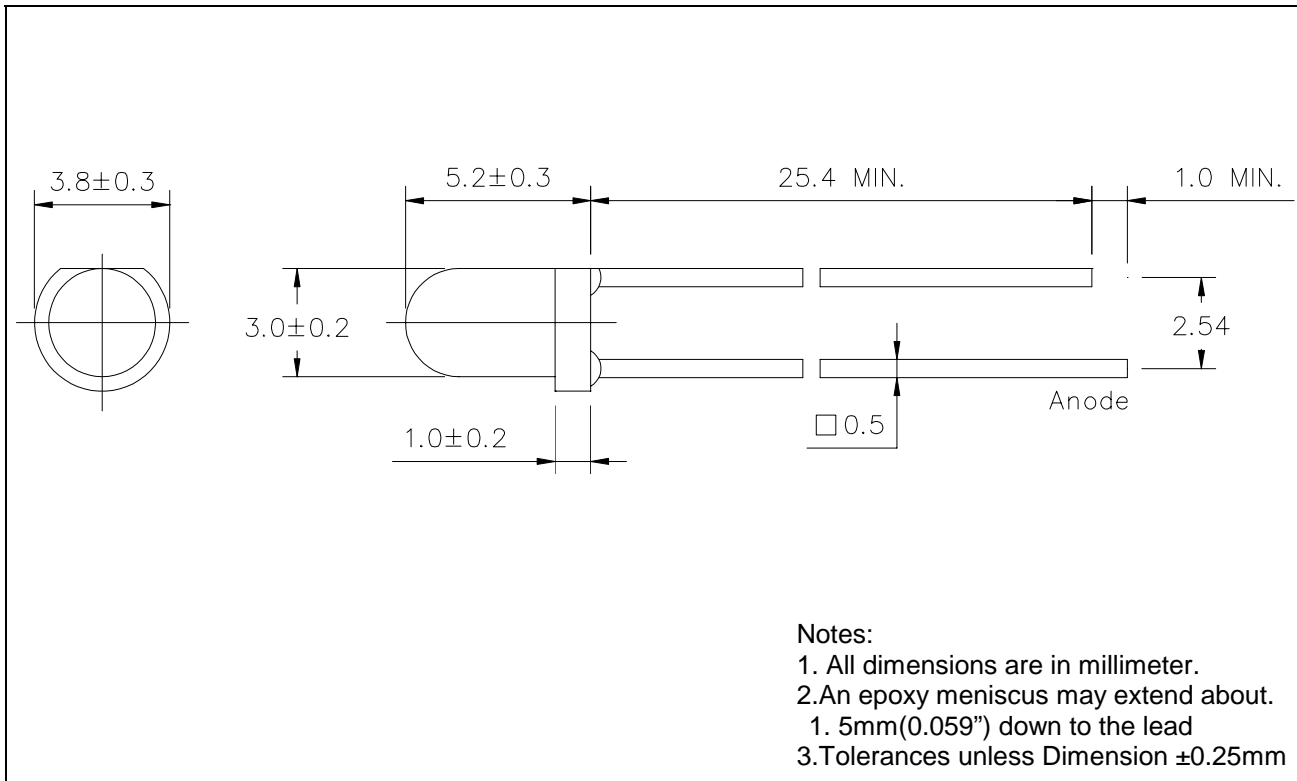
Diff No.

3 mm

Round

Type : LED Lamps

## Package Dimension :



## ■ Features :

- Choice of various viewing angles.
- Available on Tape and Reel.
- Reliable and robust.

## ■ Descriptions :

- The series is specially designed for application requiring higher brightness.
- The LED lamps are available with different color, intensities, epoxy colors etc.

## ■ Applications :

- TV set
- Monitor
- Telephone

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| PART NO.   | Chip     |                  | Lens Color  |
|------------|----------|------------------|-------------|
|            | Material | Emitted Color    |             |
| AL-314OR1C | AlGaInP  | Ultra Bright Red | Water Clear |

■ Absolute Maximum Ratings at Ta=25

| Parameter                                | Symbol                | Rating     | Unit |
|--|-----------------------|------------|------|
| Continuous Forward Current               | I <sub>F</sub>        | 50         | mA   |
| Operating Temperature                    | T <sub>opr</sub>      | -40 to +85 |      |
| Storage Temperature                      | T <sub>stg</sub>      | -40 to +85 |      |
| Soldering Temperature                    | T <sub>sol</sub>      | 260 ±5     |      |
| Electrostatic Discharge                  | ESD                   | 1000       | V    |
| Power Dissipation                        | P <sub>D</sub>        | 120        | mW   |
| Peak Forward Current<br>(Duty 1/10@1KHz) | I <sub>F</sub> (Peak) | 100        | mA   |
| Reverse Voltage                          | V <sub>R</sub>        | 5          | V    |

■ Electronic Optical Characteristics :

| Parameter                    | Symbol            | Min. | Typ. | Max. | Unit | Condition            |
|------------------------------|-------------------|------|------|------|------|----------------------|
| Luminous Intensity           | I <sub>V</sub>    | 1700 | 2800 | /    | mcd  | I <sub>F</sub> =20mA |
| Viewing Angle                | 2θ <sub>1/2</sub> | /    | 15   | /    | deg  | I <sub>F</sub> =20mA |
| Peak Wavelength              | p                 | /    | 630  | /    | nm   | I <sub>F</sub> =20mA |
| Dominant Wavelength          | d                 | /    | 625  | /    | nm   | I <sub>F</sub> =20mA |
| Spectrum Radiation Bandwidth |                   | /    | 20   | /    | nm   | I <sub>F</sub> =20mA |
| Forward Voltage              | V <sub>F</sub>    | /    | 2.0  | 2.6  | V    | I <sub>F</sub> =20mA |
| Reverse Current              | I <sub>R</sub>    | /    | /    | 10   | μA   | V <sub>R</sub> =5V   |

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## ■ Reliability test items and conditions :

| NO | Item                             | Test Conditions                          | Test Hours/Cycle | Sample Size | Ac/Re |
|----|----------------------------------|--|------------------|-------------|-------|
| 1  | Solder Heat                      | TEMP : 260 ± 5                           | 5 SEC            | 76 PCS      | 0/1   |
| 2  | Temperature Cycle                | H : +85 30min<br>└ 5min<br>L : -55 30min | 50 CYCLES        | 76 PCS      | 0/1   |
| 3  | Thermal Shock                    | H : +100 5min<br>└ 10set<br>L : -10 5min | 50 CYCLES        | 76 PCS      | 0/1   |
| 4  | High Temperature Storage         | TEMP : 100                               | 1000 HRS         | 76 PCS      | 0/1   |
| 5  | Low Temperature Storage          | TEMP : -55                               | 1000 HRS         | 76 PCS      | 0/1   |
| 6  | DC Operating Life                | TEMP : 25<br>I <sub>F</sub> =20mA        | 1000 HRS         | 76 PCS      | 0/1   |
| 7  | High Temperature / High Humidity | 85 / 85%RH                               | 1000 HRS         | 76 PCS      | 0/1   |

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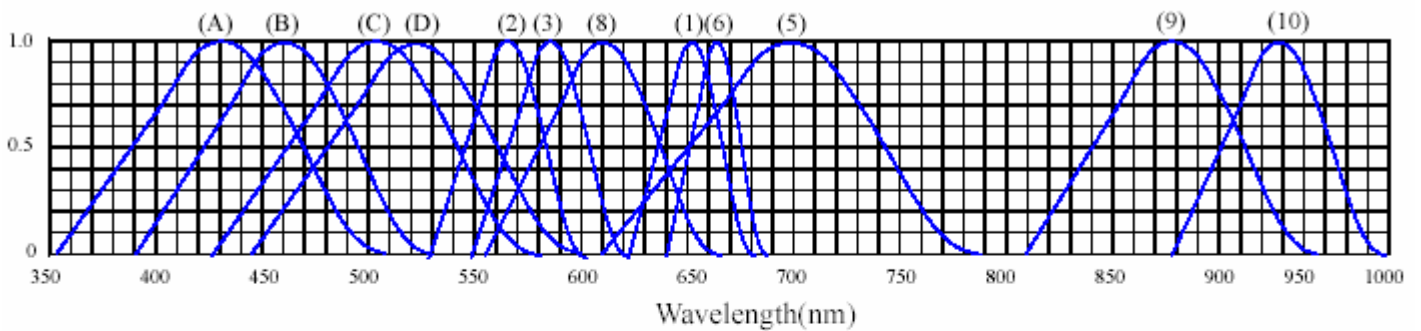
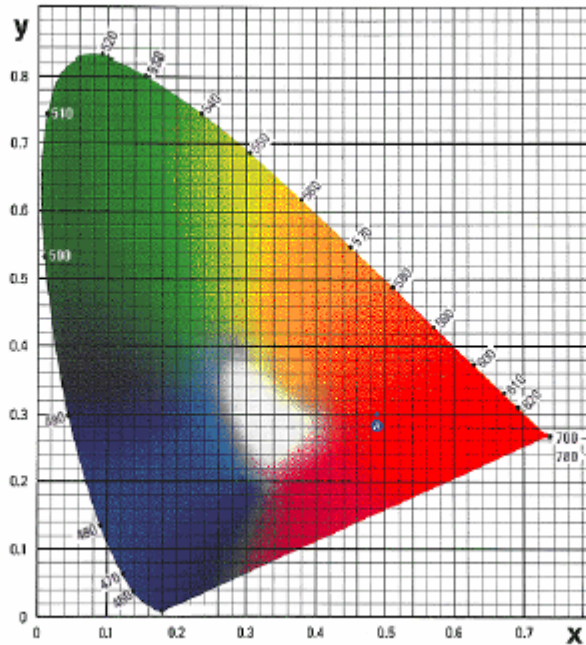
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## ◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES

RELATIVE INTENSITY VS. WAVELENGTH( $\lambda_p$ )

- |   |                                  |
|---|----------------------------------|
| (1) GaAsP/GaAs 655nm/Red                | (9)- GaAlAs 880nm                |
| (2) GaP 568nm/ Yellow Green             | (10)-GaAs/GaAs&GaAlAs/GaAs 940nm |
| (3) GaAsP/GaP 585nm/Yellow              | (A)- GaN 430nm/Blue              |
| (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B)- InGaN 470nm/Blue            |
| (5) GaP 700nm/Bright Red                | (C)- InGaN 502nm/Ultra Green     |
| (6) GaAlAs/GaAs 660nm/Super Red         | (D)- InGaN 523nm/Ultra Green     |
| (8) GaAsP/GaP 610nm/Super Red           |                                  |

Part No. **AL-3140R1C**

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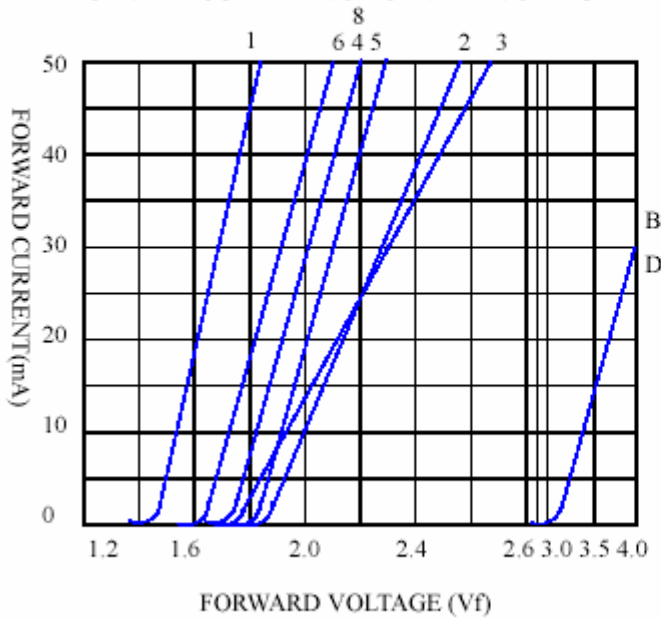
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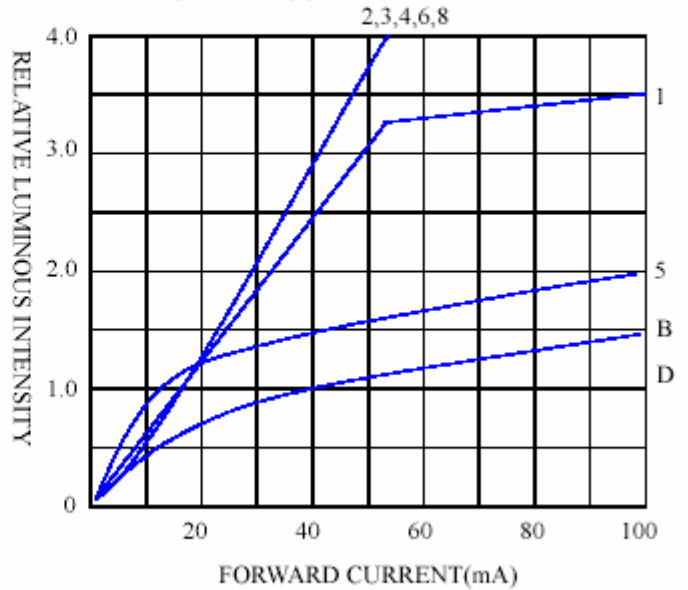
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◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

