



# EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : CDLE-020-480 REV.: 1

3.0mm Round Type LED Lamps

PART NO. : 204-10SURC/S400-A7 ECN : \_\_\_\_\_ Page: 1/4

## ■ Features :

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust

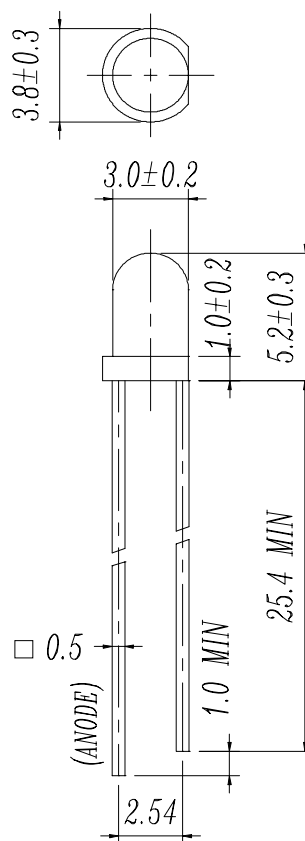
## ■ Descriptions :

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

## ■ Applications :

- TV set
- Monitor
- Telephone
- Computer

## ■ Package Dimensions:



## ■ Notes :

1. All dimensions are in millimeters.
2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.
3. Tolerances unless Dimension ±0.25mm.

| PART NO.           | Chip     |               | Lens Color  |
|--------------------|----------|---------------|-------------|
|                    | Material | Emitted Color |             |
| 204-10SURC/S400-A7 | AlGaInP  | Hyper Red     | Water Clear |

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## ■ Absolute Maximum Ratings at Ta = 25°C

| Parameter                              | Symbol   | Rating      | Unit |
|--|----------|-------------|------|
| Forward Current                        | IF       | 50          | mA   |
| Operating Temperature                  | Topr     | -40 to +85  | °C   |
| Storage Temperature                    | Tstg     | -40 to +100 | °C   |
| Soldering Temperature                  | Tsol     | 260 ± 5     | °C   |
| Electrostatic Discharge                | ESD      | 2000        | V    |
| Power Dissipation                      | Pd       | 120         | mW   |
| Peak Forward Current(Duty 1/10 @ 1KHz) | IF(Peak) | 200         | mA   |
| Reverse Voltage                        | VR       | 5           | V    |

## ■ Electronic Optical Characteristics :

| Parameter                    | Symbol | Min.   | Typ.    | Max. | Unit | Condition |
|------------------------------|--------|--------|---------|------|------|-----------|
| Luminous Intensity           | Iv     | 630.00 | 1250.00 | /    | mcd  | IF= 20 mA |
| Viewing Angle                | 2θ 1/2 | /      | 25      | /    | deg  | IF= 20 mA |
| Peak Wavelength              | λ p    | /      | 632     | /    | nm   | IF= 20 mA |
| Dominant Wavelength          | λ d    | /      | 624     | /    | nm   | IF= 20 mA |
| Spectrum Radiation Bandwidth | Δ λ    | /      | 20      | /    | nm   | IF= 20 mA |
| Forward Voltage              | VF     | /      | 2.00    | 2.40 | V    | IF= 20 mA |
| Reverse Current              | IR     | /      | /       | 10   | μ A  | VR= 5 V   |



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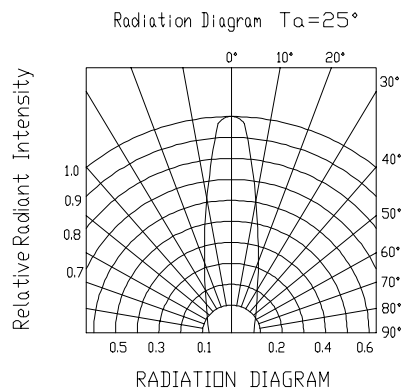
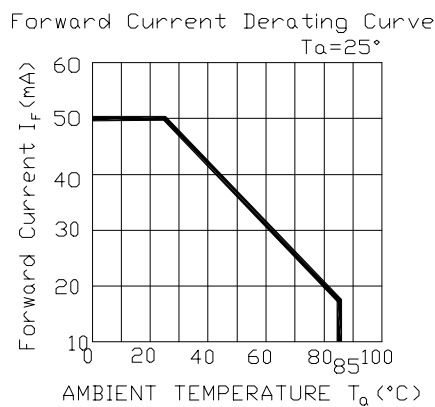
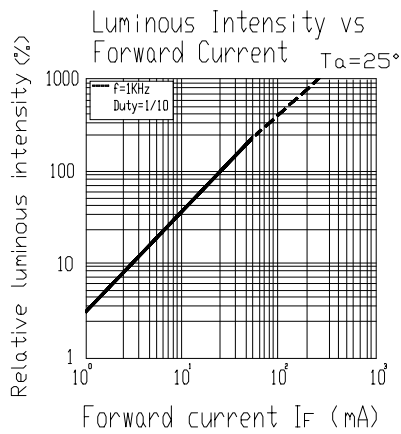
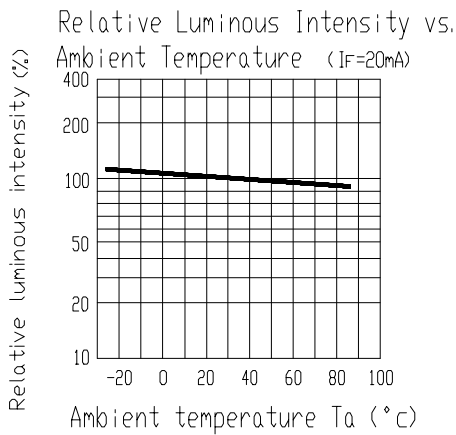
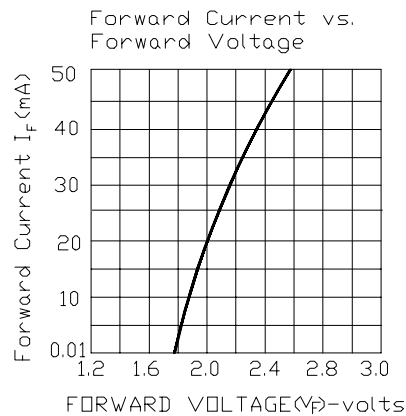
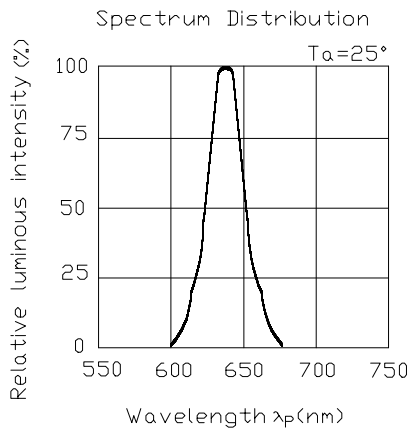
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## Typical Electro-Optical Characteristic Curves:

( SUR )





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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°C ± 5 °C                           | 5 SEC            | 76 PCS      | 0/1   |
| 2  | Temperature Cycle                | H : +85°C 30min<br>∫ 5 min<br>L : -55°C 30min | 50 CYCLES        | 76 PCS      | 0/1   |
| 3  | Thermal Shock                    | H : +100°C 5min<br>∫ 10 sec                   | 50 CYCLES        | 76 PCS      | 0/1   |
| 4  | High Temperature Storage         | TEMP : 100°C                                  | 1000 HRS         | 76 PCS      | 0/1   |
| 5  | Low Temperature Storage          | TEMP : -55°C                                  | 1000 HRS         | 76 PCS      | 0/1   |
| 6  | DC Operating Life                | TEMP : 25°C<br>IF = 20 mA                     | 1000 HRS         | 76 PCS      | 0/1   |
| 7  | High Temperature / High Humidity | 85°C / 85% RH                                 | 1000 HRS         | 76 PCS      | 0/1   |