



# EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : DLE-051-076 REV: 1.0

2.0\*5.0mm Rectangle Type LED Lamps

MODEL NO : 514VRC ECN :                      Page: 1/4

## ■ Features :

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

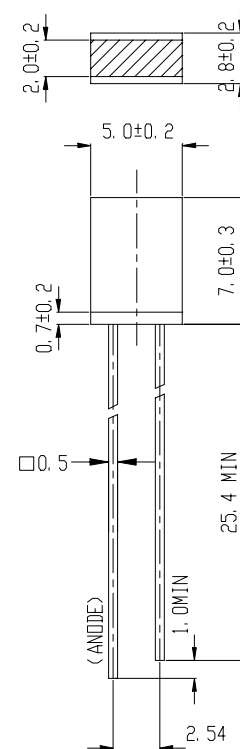
## ■ Descriptions :

- 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.

| PART NO | Chip      |               | Lens Color  |
|---------|-----------|---------------|-------------|
|         | Material  | Emitted Color |             |
| 514VRC  | GaAsP/GaP | Hi-Eff Red    | Water Clear |

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

| Parameter                              | Symbol   | Rating      | Unit |
|----------------------------------------|----------|-------------|------|
| Forward Current                        | IF       | 30          | mA   |
| Operating Temperature                  | Topr     | -40 to +85  | °C   |
| Storage Temperature                    | Tstg     | -40 to +100 | °C   |
| Soldering Temperature                  | Tsol     | 260 ± 5     | °C   |
| Power Dissipation                      | Pd       | 100         | mW   |
| Peak Forward Current(Duty 1/10 @ 1KHZ) | IF(Peak) | 160         | mA   |
| Reverse Voltage                        | VR       | 5           | V    |

## ■ Electronic Optical Characteristics :

| Parameter                    | Symbol | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|--------|------|------|------|------|-----------|
| Luminous Intensity           | Iv     | 10   | 16   | /    | mcd  | IF= 20 mA |
| Viewing Angle                | 2θ 1/2 | /    | 85   | /    | deg  | IF= 20 mA |
| Peak Wavelength              | λ p    | /    | 640  | /    | nm   | IF= 20 mA |
| Dominant Wavelength          | λ d    | /    | 625  | /    | nm   | IF= 20 mA |
| Spectrum Radiation Bandwidth | △ λ    | /    | 45   | /    | nm   | IF= 20 mA |
| Forward Voltage              | VF     | 1.7  | 2.0  | 2.4  | V    | IF= 20 mA |
| Reverse Current              | IR     | /    | /    | 10   | μ A  | VR= 5 V   |



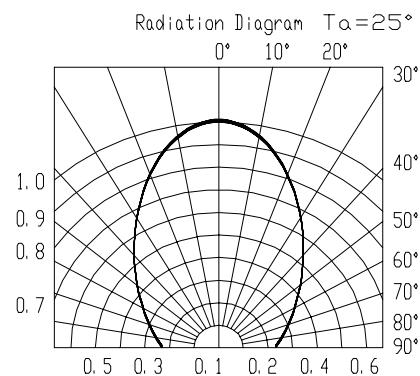
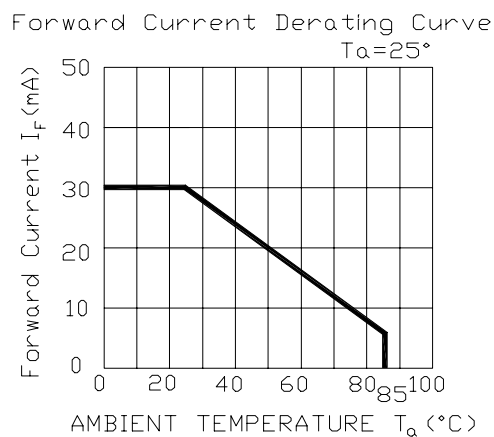
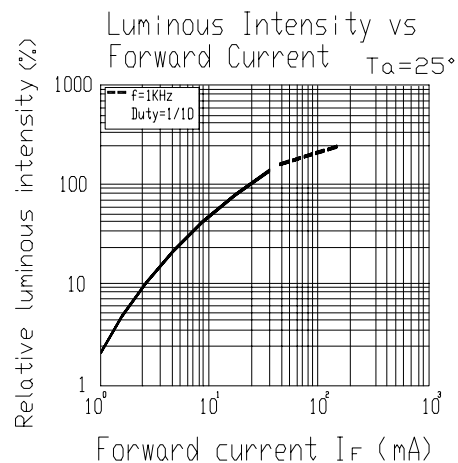
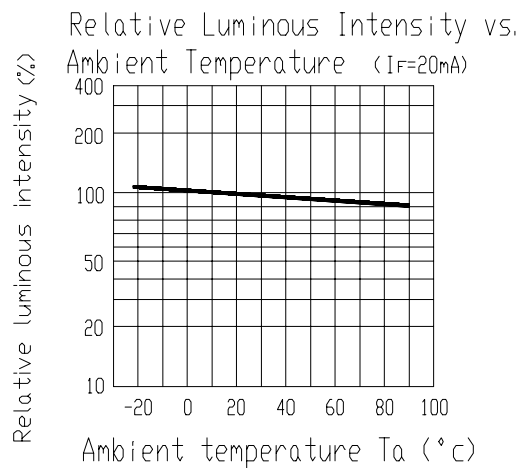
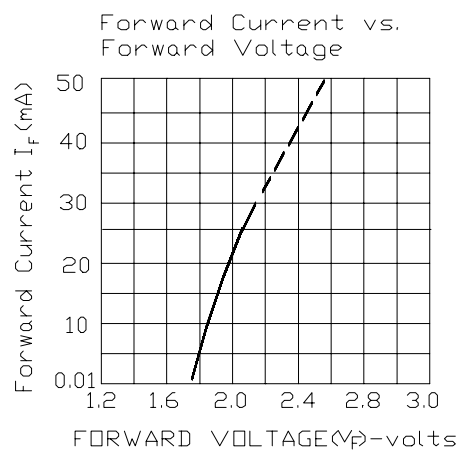
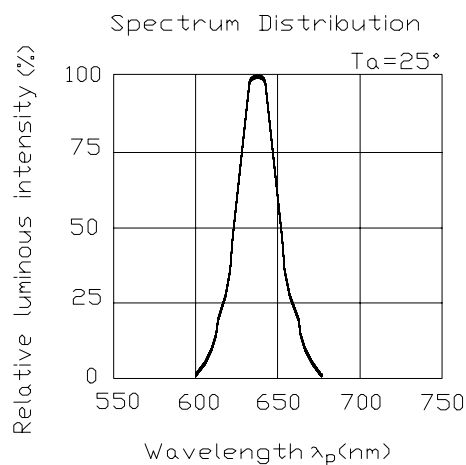
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## ■ Typical Electro-Optical Characteristic Curves





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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 CYCLE         | 76 PCS      | 0/1   |
| 3  | Thermal Shock                    | H : +100°C 5min<br>┆ 10 sec<br>L : -10°C 5min | 50 CYCLE         | 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                | IF = 20 mA                                    | 1000 HRS         | 76 PCS      | 0/1   |
| 7  | High Temperature / High Humidity | 85°C/85% RH                                   | 1000 HRS         | 76 PCS      | 0/1   |