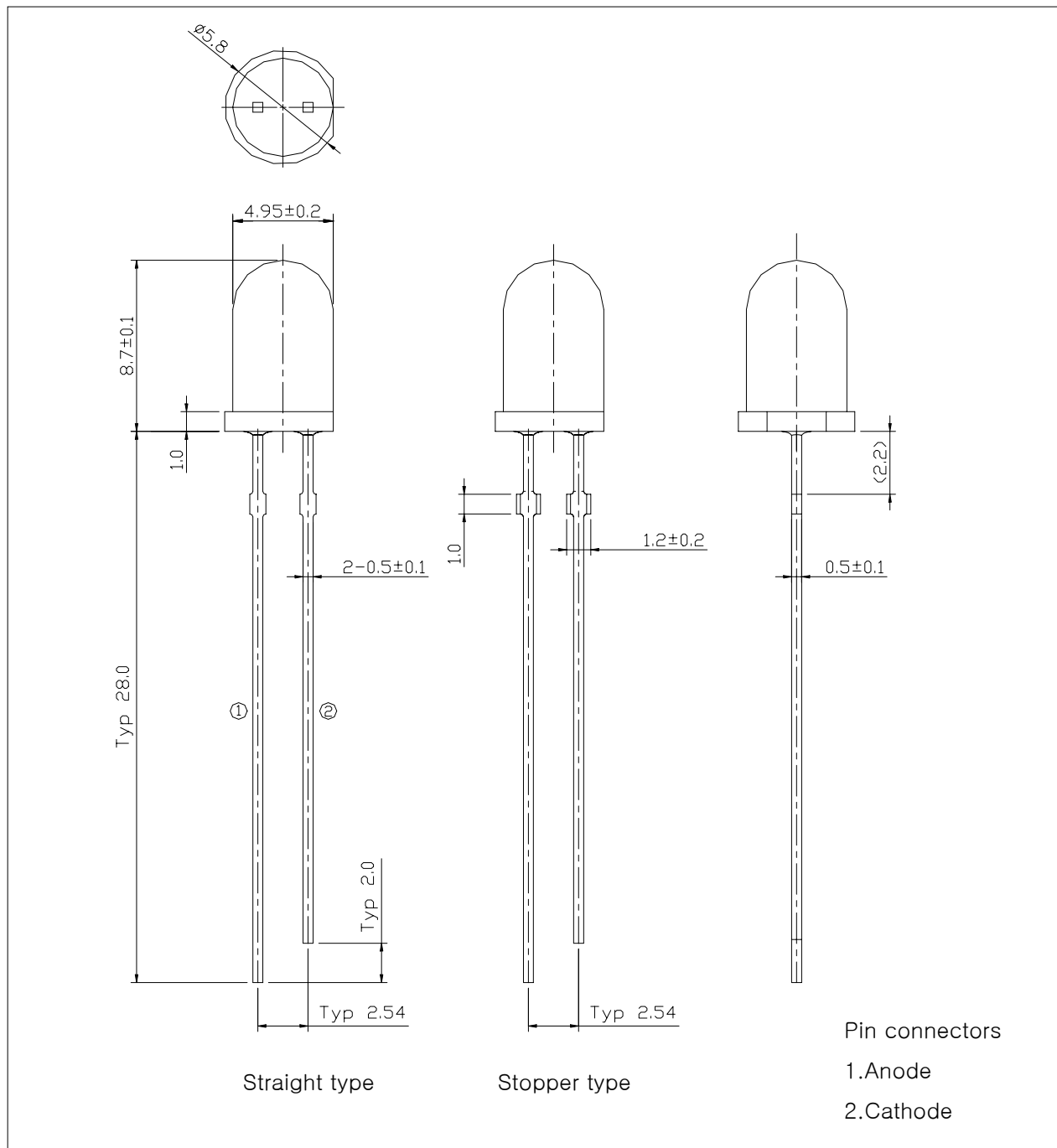


■ Features

- Colorless transparency lens type
- $\phi 5\text{mm}$ (T-1 $\frac{3}{4}$) all plastic mold type
- High luminosity
- ESD Class(Mil Std-883d Method 3015.7) based on Human Body Model(HBM) : Class 3

■ Outline dimensions

(unit : mm)



■ Absolute maximum ratings

| Characteristic | Symbol | Ratings | Unit |
|--------------------------------------|-----------|---------------------|------|
| Power dissipation | P_D | 120 | mW |
| Forward Current | I_F | 30 | mA |
| * ¹ Peak Forward Current | I_{FP} | 100 | mA |
| Reverse Voltage | V_R | 5 | V |
| Operating Temperature | T_{opr} | -30~85 | °C |
| Storage Temperature | T_{stg} | -40~100 | °C |
| * ² Soldering Temperature | T_{sol} | 260°C for 3 seconds | |

*1. Duty ratio 1/10, Pulse Width 10msec

*2. Keep the distance more than 2.0mm from PCB to the bottom of LED package

■ Electrical – Optical characteristics

($T_a=25^\circ\text{C}$)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|--------------------------------|----------------|---------------------|------|----------|------|------|
| * ³ Forward Voltage | V_F | $I_F=20\text{mA}$ | - | 3.3 | 4.0 | V |
| ESD Check Forward Voltage | V_{F2} | $I_F=10\mu\text{A}$ | 2.0 | - | - | V |
| Reverse Current | I_R | $V_R=5\text{V}$ | - | - | 50 | uA |
| * ⁴ Half Angle | $\theta_{1/2}$ | $I_F=20\text{mA}$ | - | ± 15 | - | deg |

*3. Voltages are tested at a current pulse duration of 1 ms and an accuracy of $\pm 0.1\text{V}$

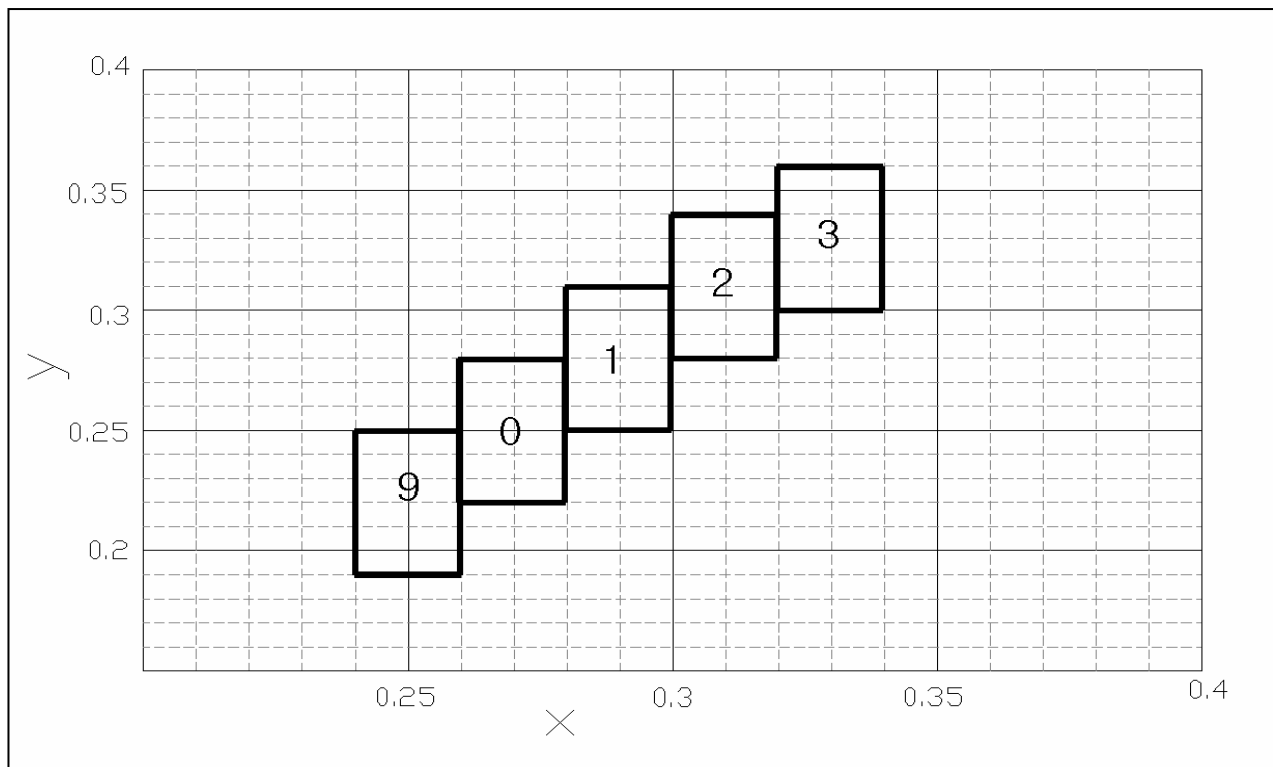
*4. $\theta_{1/2}$ is the off-axis angle where the luminous intensity is 1/2 the peak intensity

■ Chromaticity Coordinates ranks

($T_a=25^\circ\text{C}$)

| Color RANK | | Test Condition | Min. | Typ. | Max. |
|------------|---|-------------------|------|------|------|
| 9 | x | $I_F=20\text{mA}$ | 0.24 | - | 0.26 |
| | y | | 0.19 | - | 0.25 |
| 0 | x | | 0.26 | - | 0.28 |
| | y | | 0.22 | - | 0.28 |
| 1 | x | | 0.28 | - | 0.30 |
| | y | | 0.25 | - | 0.31 |
| 2 | x | | 0.30 | - | 0.32 |
| | y | | 0.28 | - | 0.34 |
| 3 | x | | 0.32 | - | 0.34 |
| | y | | 0.30 | - | 0.36 |

* The CIE standard colorimetric system



■ Luminous intensity ranks

(Ta=25°C)

| Iv RANK | Test Condition | Min. | Typ. | Max. | Unit |
|---------|-----------------------|------|------|------|------|
| Q | I _F = 20mA | 1700 | – | 2400 | mcd |
| R | | 2400 | – | 3400 | |
| S | | 3400 | – | 4800 | |
| T | | 4800 | – | 6700 | |

* Luminous intensity is tested at a current pulse duration of 25 ms and an accuracy of $\pm 11\%$.

Intensity Measured : 0.01sr(CIE. LED_B)

■ Precautions On LED using

* To avoid optical difference, Please do not mix differently-ranked product.

■ Characteristic Diagrams

Fig. 1 I_F - V_F

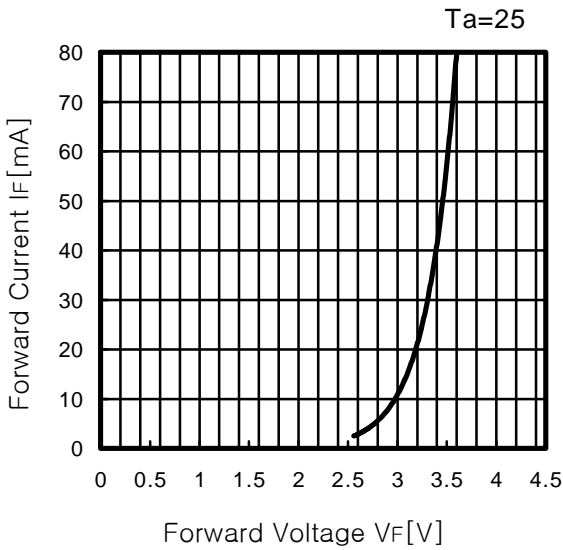


Fig. 2 I_v - I_F

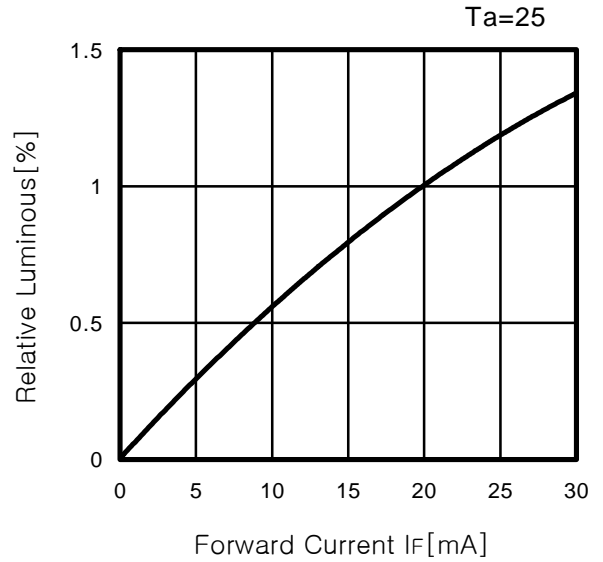


Fig. 3 I_F - T_a

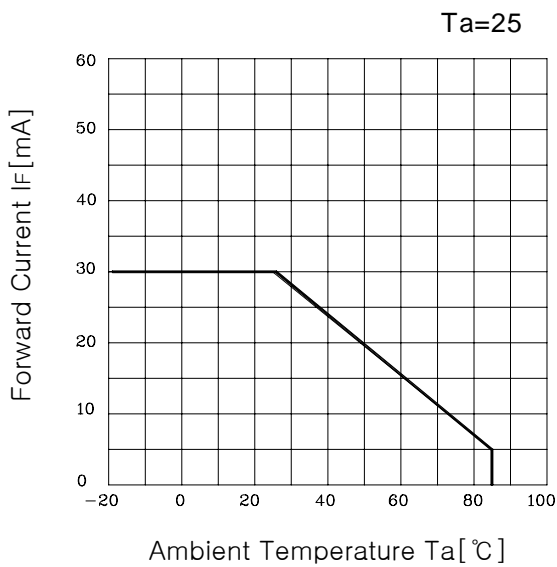


Fig. 4 Radiation Characteristics

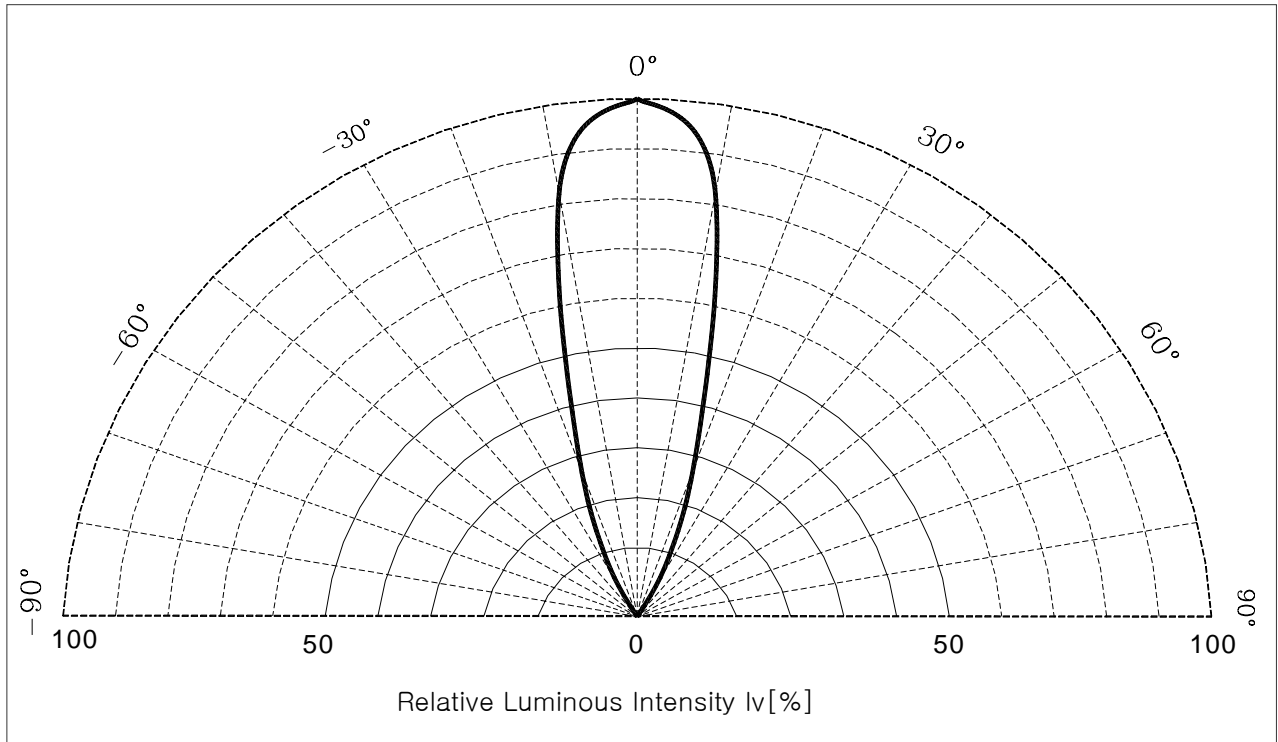
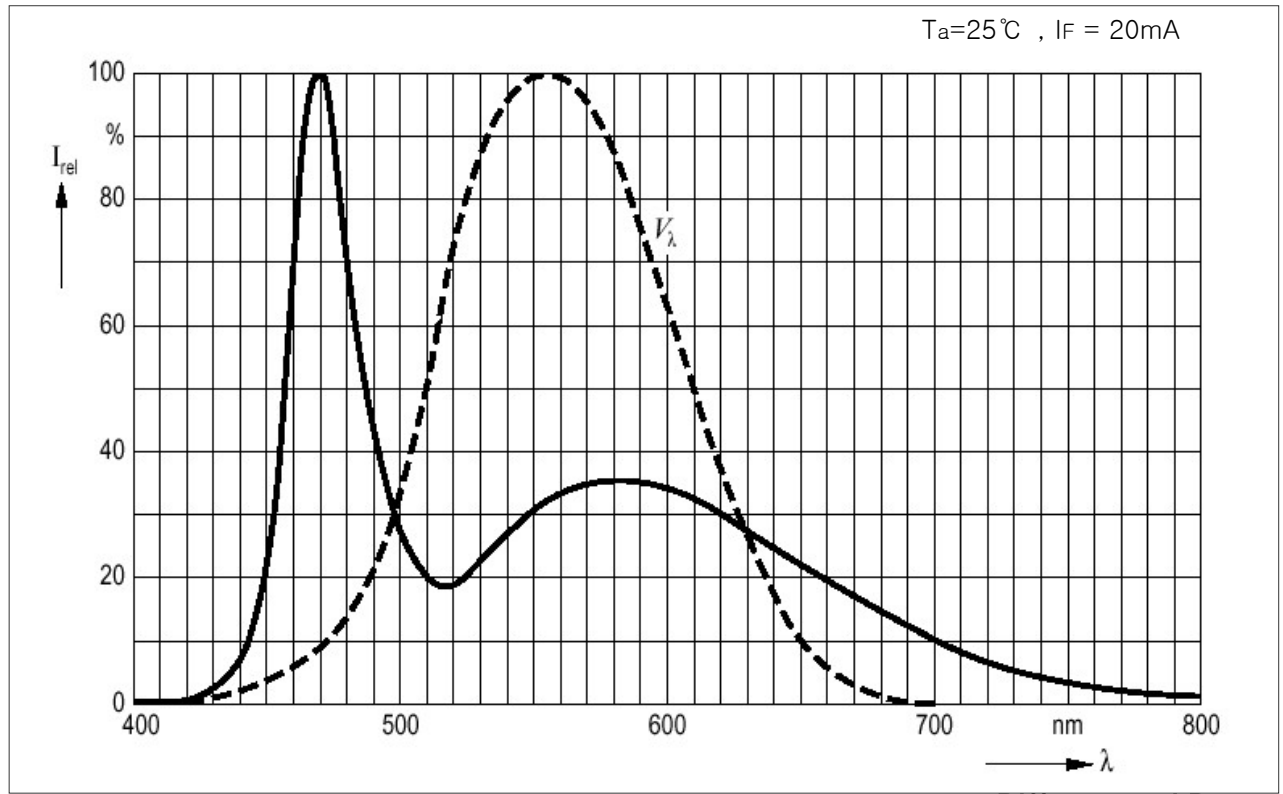


Fig. 5 Spectrum Diagram



■ Revision history sheet

| Spec NO. | | | |
|----------|----------------------------|---------------------|---------|
| Title | Specification for Approval | | |
| Times | Date | Summary of revision | Remarks |
| 1 | 2001. 07. 15 | 신규제정 | |
| 2 | 2003. 02. 26 | Format 변경 | |
| 3 | 2004. 06. 03 | lv Rank 변경 | |