

## Features

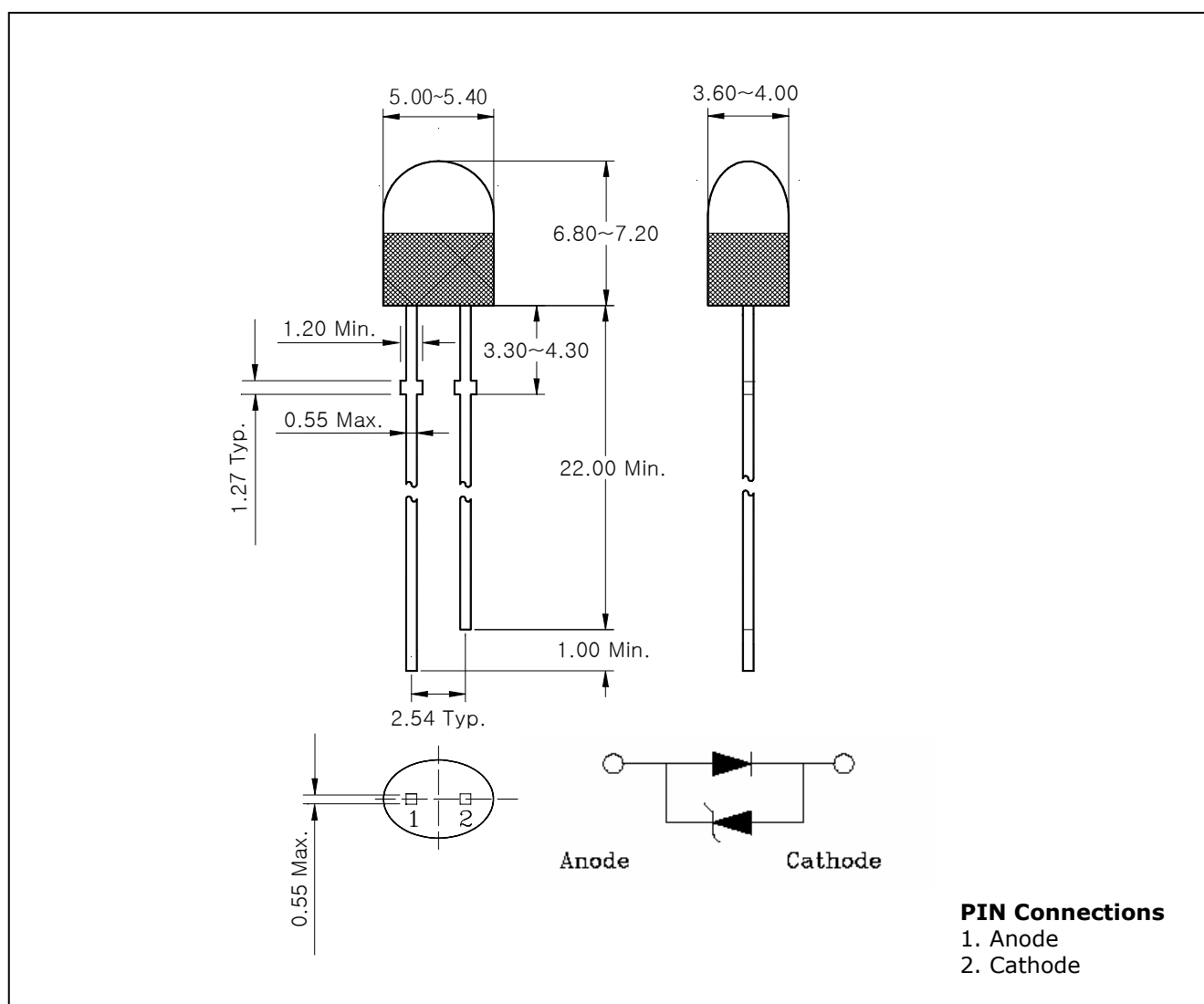
- Blue colored diffusion lens type
- Ellipse type(X=5.2mm, Y=3.8mm)
- Ultra luminosity
- Flangeless package
- High power LEDs
- Oval shape
- Lens color : Blue(Diffusion Type)
- Half angle( $2\theta_{\frac{1}{2}}$ ) :  $110^\circ$  /  $40^\circ$  )
- **E ; ESD Protected ( $\pm 2.0\text{KV}$ , 3 Times @100pF, 1.5K $\Omega$ )**

## Application

- Full color displays
- Message boards
- Variable message signs(VMS)

## Outline Dimensions

unit : mm



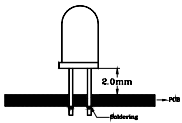
## Absolute Maximum Ratings

(Ta = 25℃)

Characteristic	Symbol	Rating	Unit
Power dissipation	P <sub>D</sub>	150	mW
Forward current	I <sub>F</sub>	40	mA
*1Peak forward current	I <sub>FP</sub>	50	mA
Operating temperature range	T <sub>opr</sub>	-30~85	℃
Storage temperature range	T <sub>stg</sub>	-30~100	℃
*2Soldering temperature	T <sub>sol</sub>	260℃ for 10 seconds	

\*1.Duty ratio = 1/16, Pulse width = 0.1ms

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



※ Recommend document

- . LED is very sensitive to ESD.

## Electrical / Optical Characteristics

(Ta = 25℃)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	-	3.2	3.8	V
*4Luminous intensity	I <sub>V</sub>	I <sub>F</sub> = 20mA	155	-	780	mcd
Dominant wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	457	465	473	nm
Spectrum bandwidth	Δλ	I <sub>F</sub> = 20mA	-	35	-	nm
*3Half angle	θ <sub>1/2</sub>	I <sub>F</sub> = 20mA	-	±55	-	deg
	X Y		-	±20	-	

\*3. θ<sub>1/2</sub> is the off-axis angle where the luminous intensity is 1/2 the peak intensity

\*4. Luminous intensity maximum tolerance for each grade classification limit is ±18%

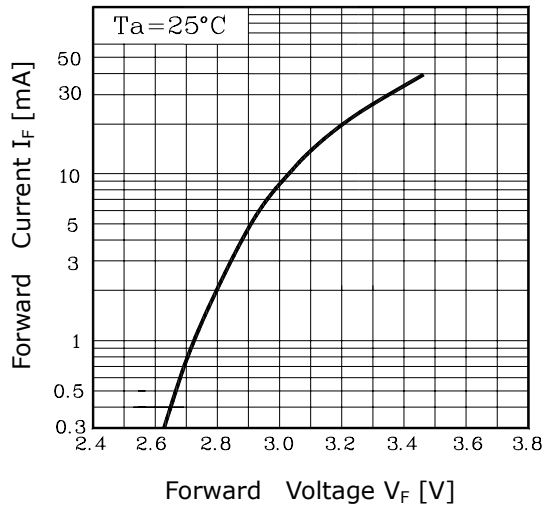
\*4. Luminous Intensity Classification

M	N	O	P
155~230	230~350	350~520	520~780

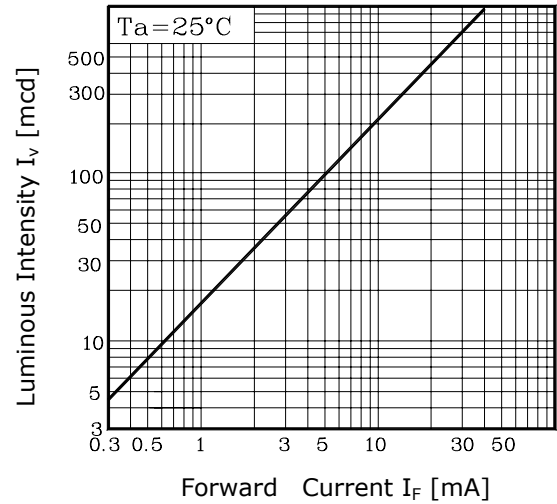
(Do not use to combine grade classification. It must be used separately grade classification)

## Characteristic Diagrams

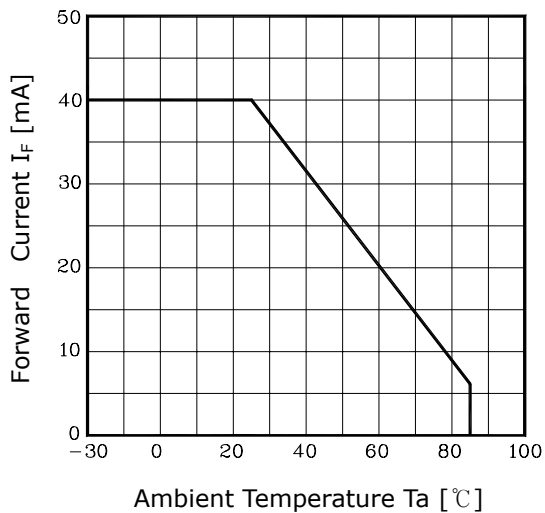
**Fig. 1  $I_F - V_F$**



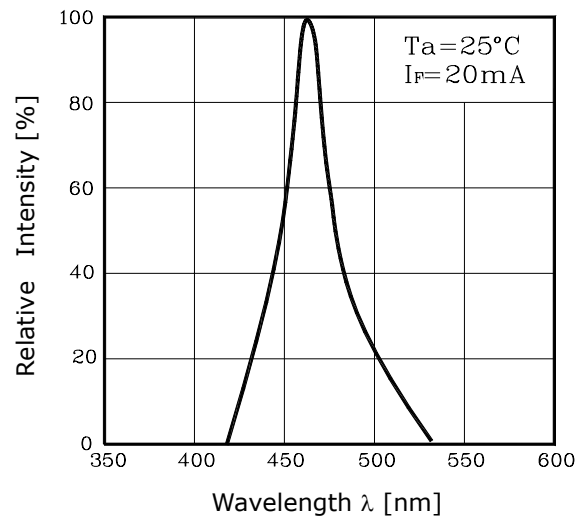
**Fig. 2  $I_V - I_F$**



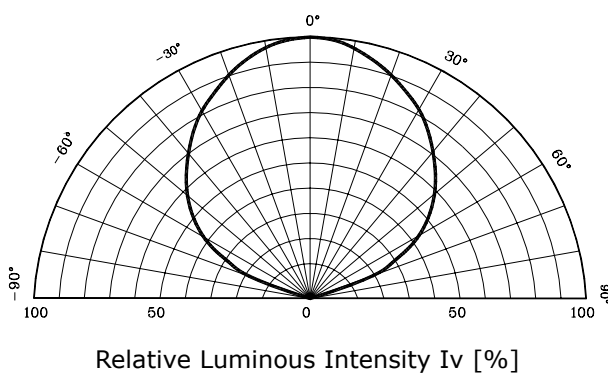
**Fig. 3  $I_F - T_a$**



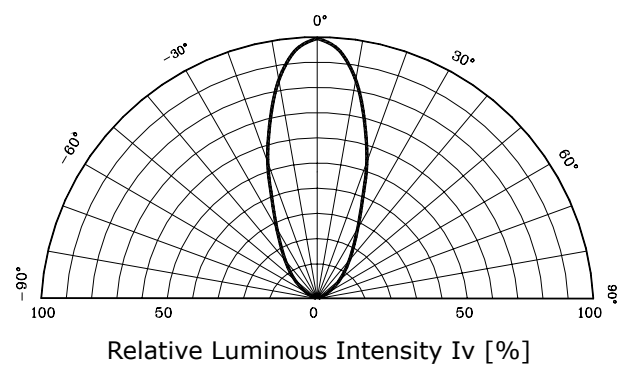
**Fig.4 Spectrum Distribution**



**Fig. 5-1 Radiation Diagram(X)**



**Fig. 5-2 Radiation Diagram(Y)**



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