

**Features**

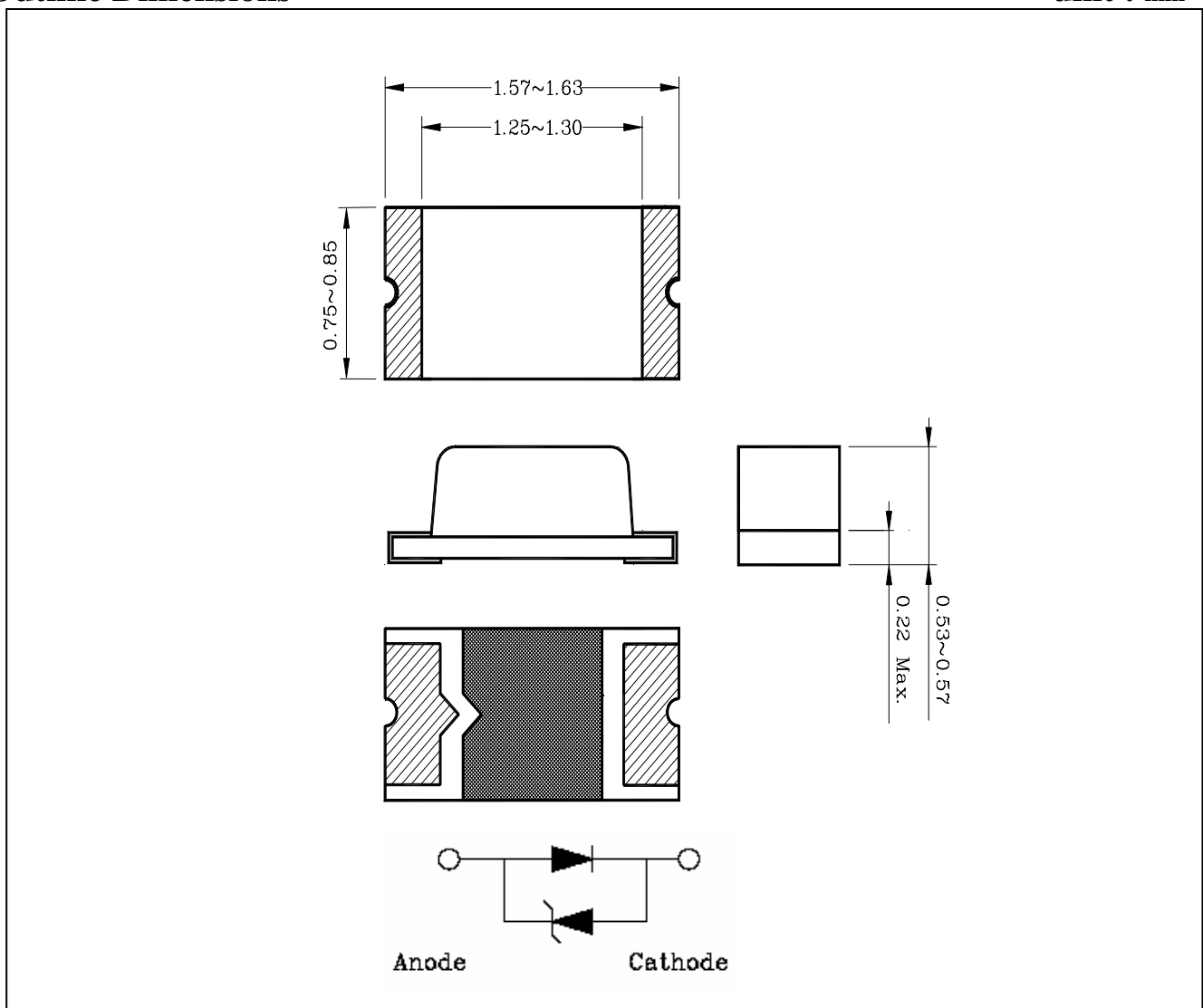
- 1.6mm(L)×0.8mm small size surface mount type
- Thin package of 0.55mm(H) thickness
- Transparent clear lens optic
- Low power consumption type chip LED
- Emitting Light Blue(470nm)
- **E ; ESD Protected ( $\pm 2.0KV$ , 3 Times @100pF, 1.5K $\Omega$ )**

**Applications**

- LCD backlighting
- Keypad backlighting
- Symbol backlighting
- Front panel indicator lamp

**Outline Dimensions**

unit : mm



## Absolute Maximum Ratings

(Ta=25°C)

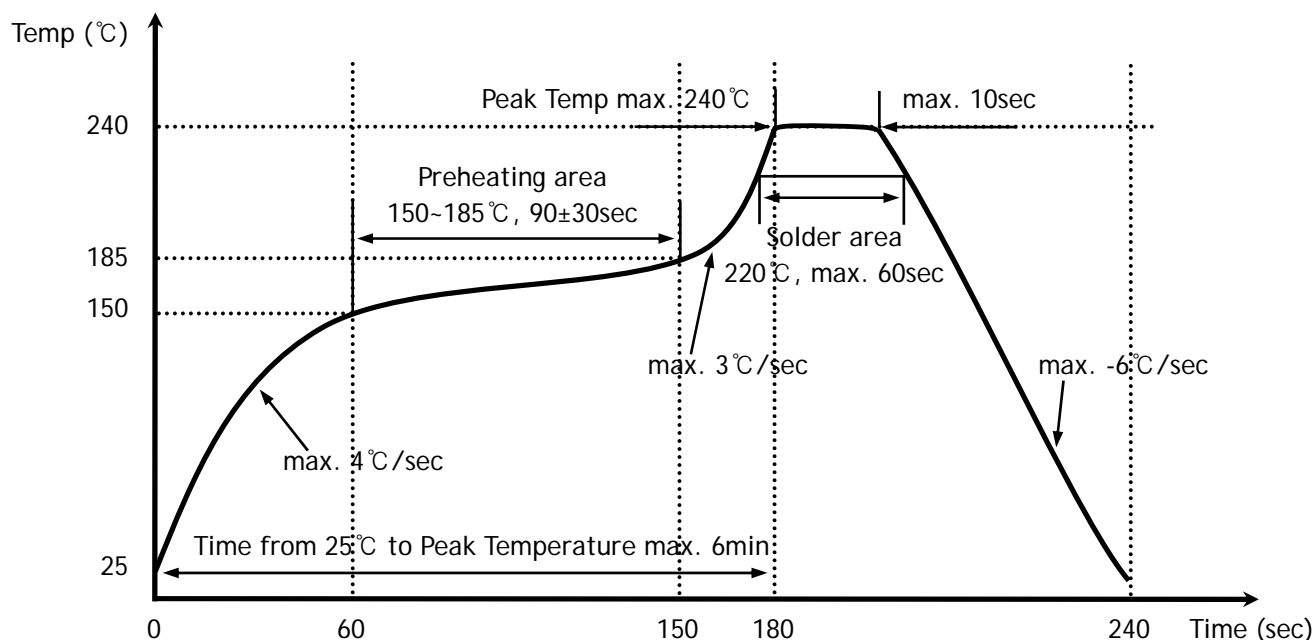
Characteristic	Symbol	Rating	Unit
Power dissipation	$P_D$	68	mW
Forward current	$I_F$	20	mA
*1 Peak forward current	$I_{FP}$	50	mA
Operating temperature range	$T_{opr}$	-25~80	°C
Storage temperature range	$T_{stg}$	-30~100	°C
*2 Soldering temperature	$T_{sol}$	240°C for 10 seconds	

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

\*2. Recommended reflow soldering temperature profile

- Preheating 150°C to 185°C within 120 seconds soldering 240°C within 10 seconds

Gradual cooling (Avoid quenching)



## Electrical / Optical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F = 10\text{mA}$	2.8	-	3.4	V
*3 Luminous intensity	$I_V$	$I_F = 10\text{mA}$	12	-	40	mcd
*5 Peak wavelength	$\lambda_P$	$I_F = 10\text{mA}$	460	-	475	nm
Spectrum bandwidth	$\Delta\lambda$	$I_F = 10\text{mA}$	-	35	-	nm
*4 Half angle	θ1/2	X	-	±65	-	deg
		Y	-	±70	-	

- \*3. Luminous intensity maximum tolerance for each grade classification limit is  $\pm 18\%$   
(The test result of  $I_F=10\text{mA}$  is only for reference)
- \*4.  $\theta_{1/2}$  is the off-axis angle where the luminous intensity is 1/2 the peak intensity
- \*5.  $\lambda_P$  Grade Classification ( $\lambda_P$  Grade tolerance for  $\pm 3\text{nm}$ )
- $V_F / I_V / \lambda_P$  Grade Classification ( $T_a=25^\circ\text{C}$ )

Test Condition @ $I_F=10\text{mA}$		
Forward Voltage [V]	Luminous Intensity [mcd]	Peak Wavelength [nm]
1 : 2.8~3.0	A : 12~20	a : 460~465
2 : 3.0~3.2	B : 20~29	c : 465~470
3 : 3.2~3.4	C : 29~40	c : 470~475

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

Characteristic Diagrams

Fig. 1  $I_F - V_F$

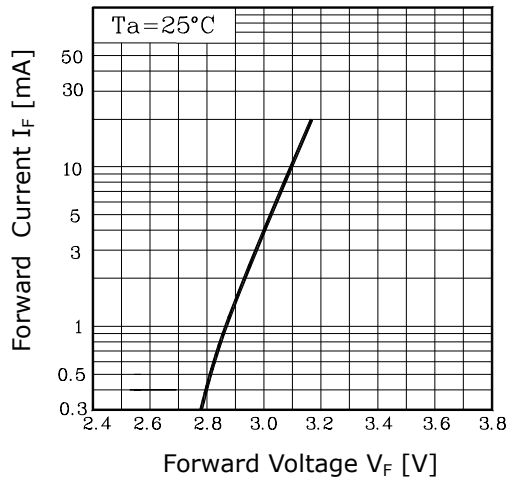


Fig. 2  $I_v - I_F$

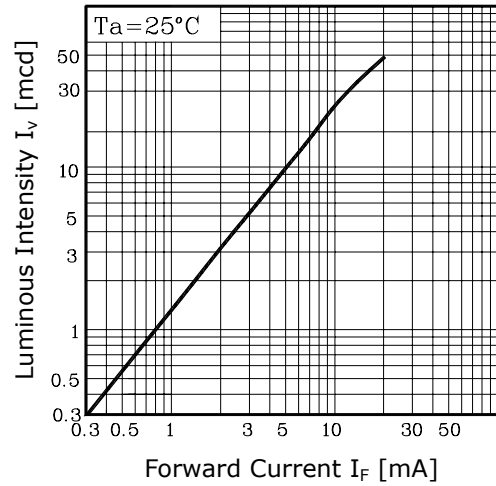


Fig. 3  $I_F - T_a$

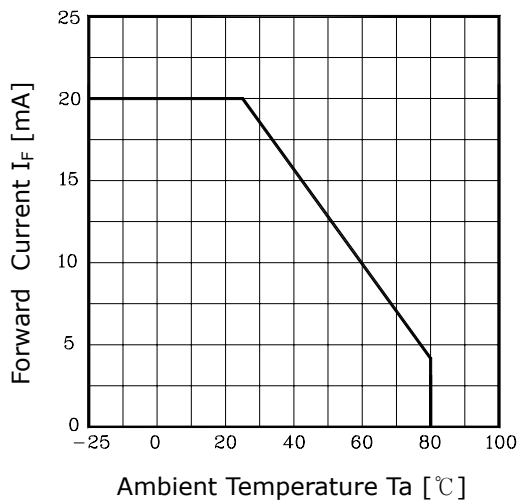


Fig.4 Spectrum Distribution

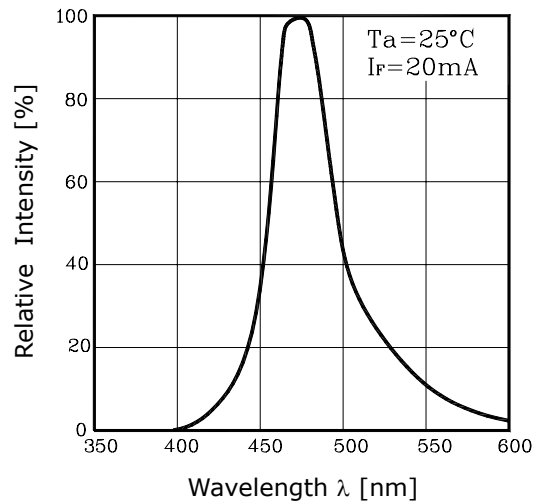


Fig. 5-1 Radiation Diagram(X)

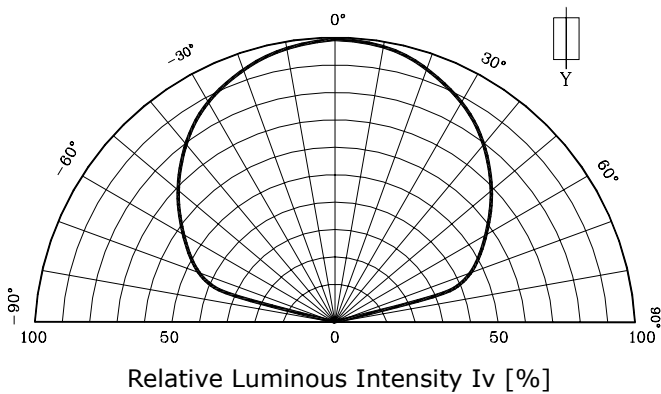
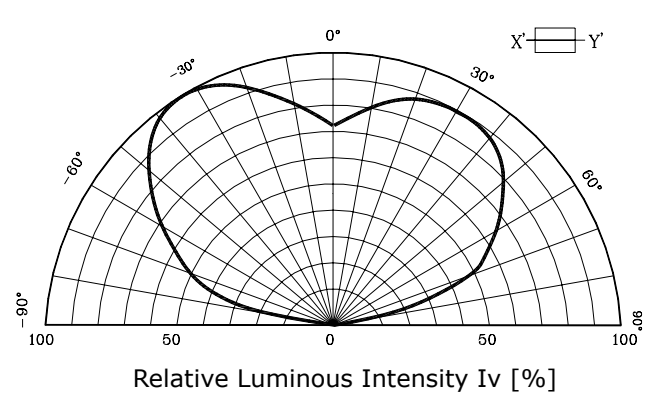


Fig. 5-2 Radiation Diagram(Y)



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