

### 1. Features

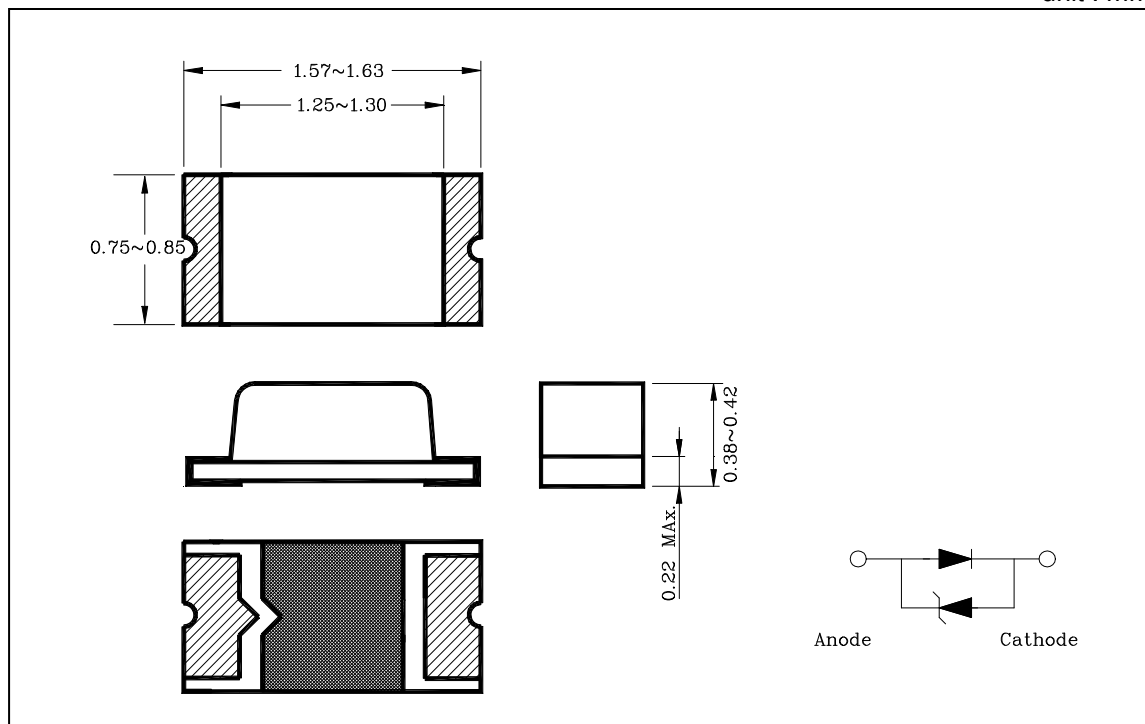
- ◆ 1.6mm(L)×0.8mm small size surface mount type
- ◆ Thin package of 0.4mm(H) thickness
- ◆ Transparent clear lens optic
- ◆ Low power consumption type chip LED
- ◆ Emitting Light Blue(470nm)
- ◆ E ; ESD Protected ( $\pm 2.0\text{KV}$ , 3 Times @100pF, 1.5K $\Omega$ )

### 2. Applications

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

### 3. Outline Dimensions

unit : mm



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4. Absolute Maximum Ratings

(Ta=25°C)

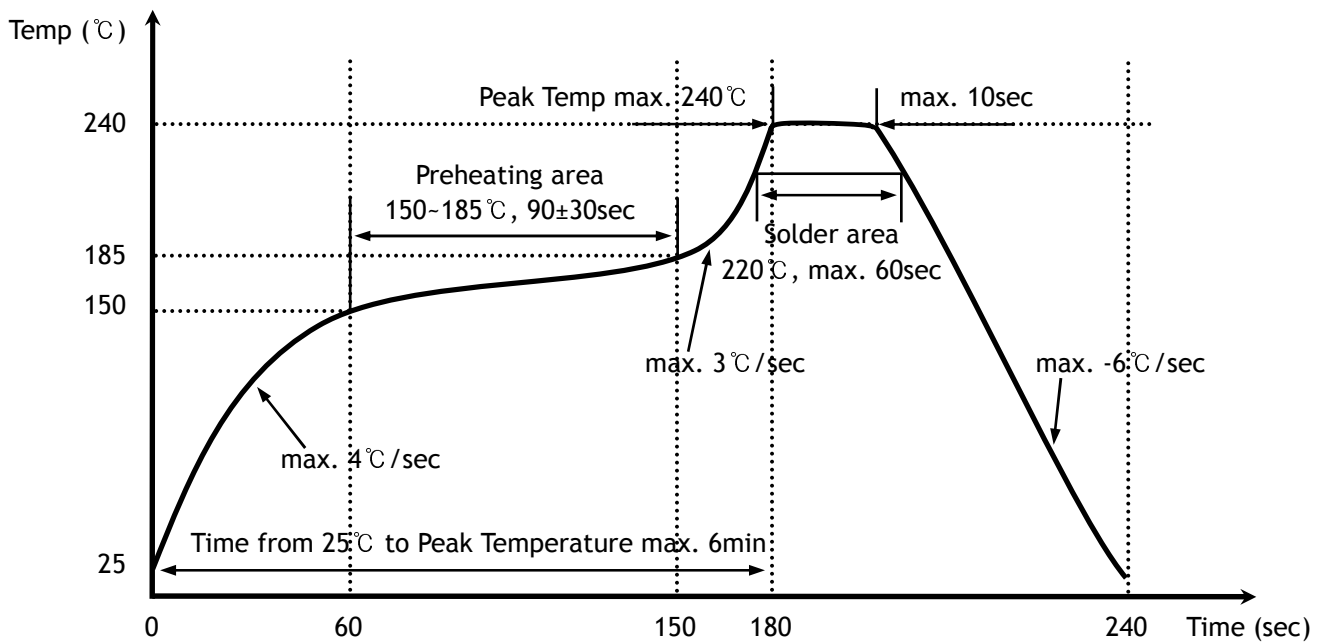
Characteristic	Symbol	Rating	Unit
Power dissipation	$P_D$	70	mW
Forward current	$I_F$	20	mA
*1 Peak forward current	$I_{FP}$	50	mA
Operating temperature range	$T_{opr}$	-25 ~ 80	°C
Storage temperature range	$T_{stg}$	-30 ~ 100	°C
*2 Soldering temperature	$T_{sol}$	240°C for 10 seconds	

\*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)



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5. Electrical / Optical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F= 5mA$	2.6	-	3.3	V
*3 Luminous intensity	$I_V$	$I_F= 5mA$	5	-	50	mcd
Dominant wavelength	$\lambda_d$	$I_F= 5mA$	460	-	485	nm
Spectrum bandwidth	$\Delta\lambda$	$I_F= 5mA$	-	35	-	nm
*4 Half angle	$\theta/2$	$I_F= 5mA$	-	X $\pm 65$	-	deg
	Y $\pm 70$					

\*3.The test result of  $I_F=5mA$  is only for reference

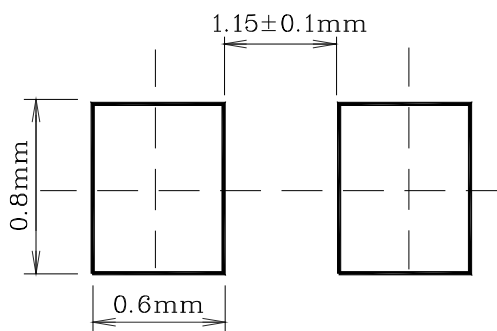
\*4. $\theta/2$  is the off-axis angle where the luminous intensity is 1/2 the peak intensity

◆  $V_F / I_V / \lambda_p$  Grade Classification (Ta=25°C)

Test Condition @ $I_F=5mA$			
Forward Voltage [V]	Luminous Intensity [mcd]	Dominant Wavelength [nm]	
0 : 2.6~2.7	A0 : 5~9	a : 460~473	
1 : 2.7~2.8			
2 : 2.8~2.9			
3 : 2.9~3.0	A : 9~22		b : 473~485
4 : 3.0~3.1			
5 : 3.1~3.2			
6 : 3.2~3.3	B : 22~50		

(Each  $V_F$ ,  $I_V$ ,  $\lambda_D$  range did not consider a margin. Please refer to  $\pm 0.1V$  of  $V_F$  range,  $\pm 18\%$  of  $I_V$  range,  $\pm 1nm$  of  $\lambda_D$  range as a permitted limit and do not use to combine grade classification. It must be used separately grade classification)

\* Recommended Soldering Land Pattern



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6. Characteristic Diagrams

Fig. 1  $I_F - V_F$

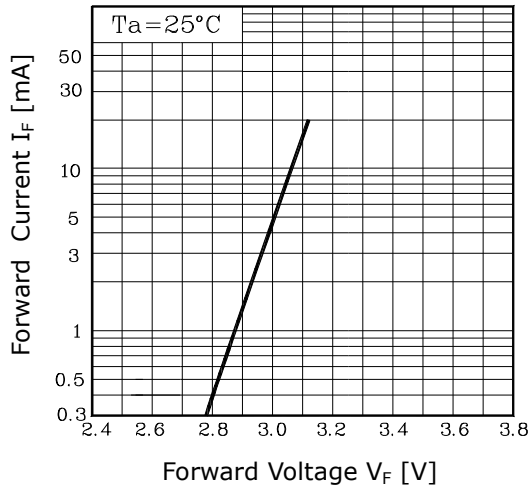


Fig. 2  $I_V - I_F$

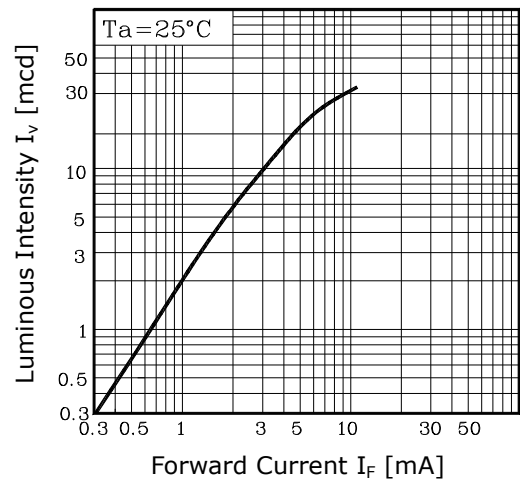


Fig. 3  $I_F - T_a$

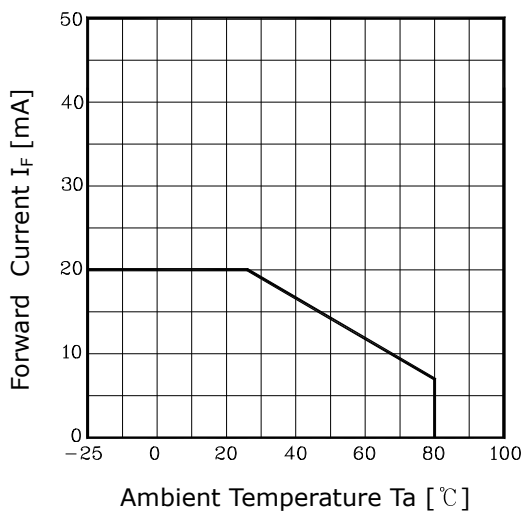


Fig.4 Spectrum Distribution

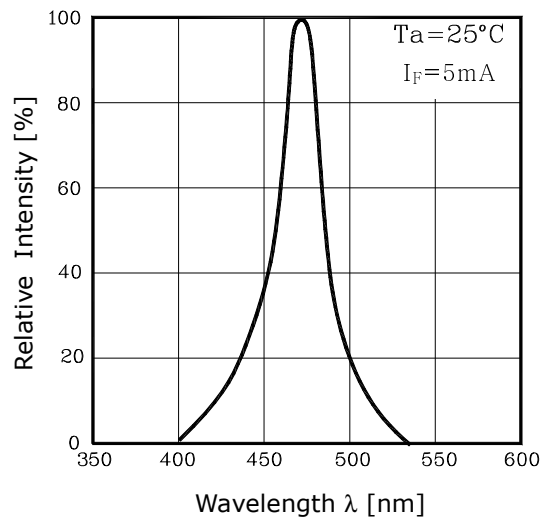


Fig. 5-1 Radiation Diagram(X)

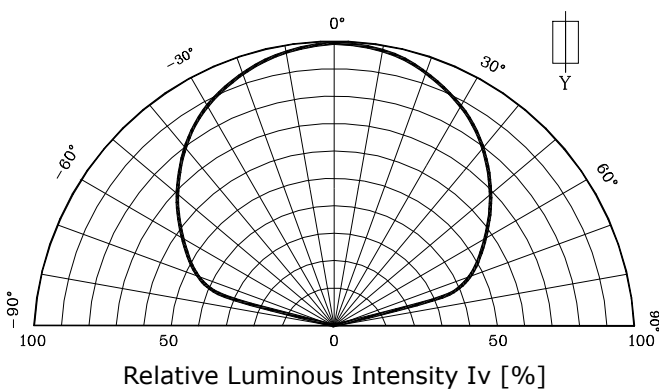
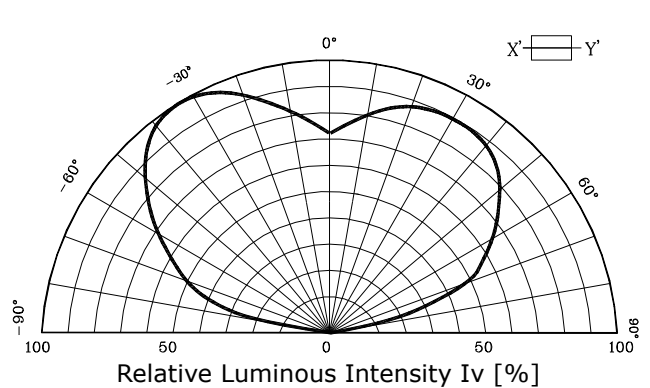


Fig. 5-2 Radiation Diagram(Y)



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