

1. Features

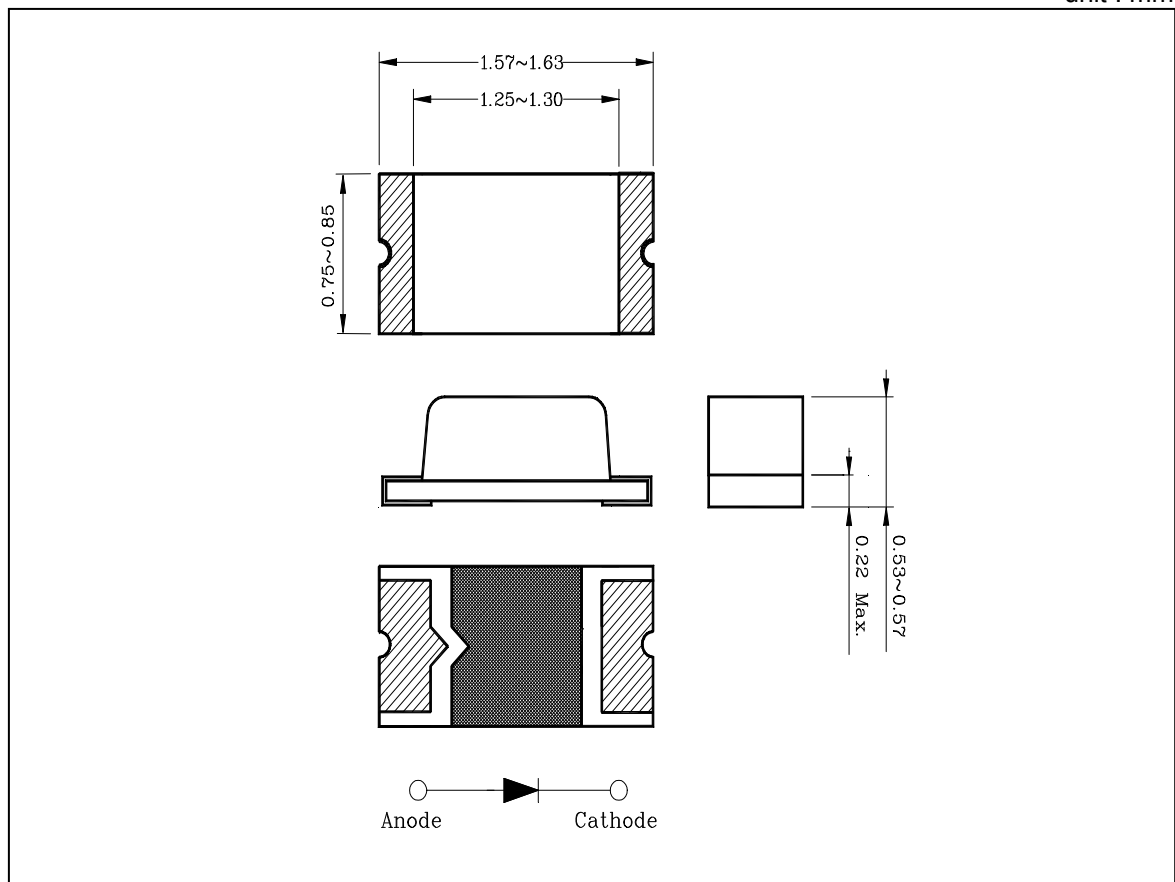
- ◆ 1.6mm(L)×0.8mm(W) small size surface mount type
- ◆ Thin package of 0.55mm(H) thickness
- ◆ Transparent clear lens optic
- ◆ Low power consumption type chip led

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

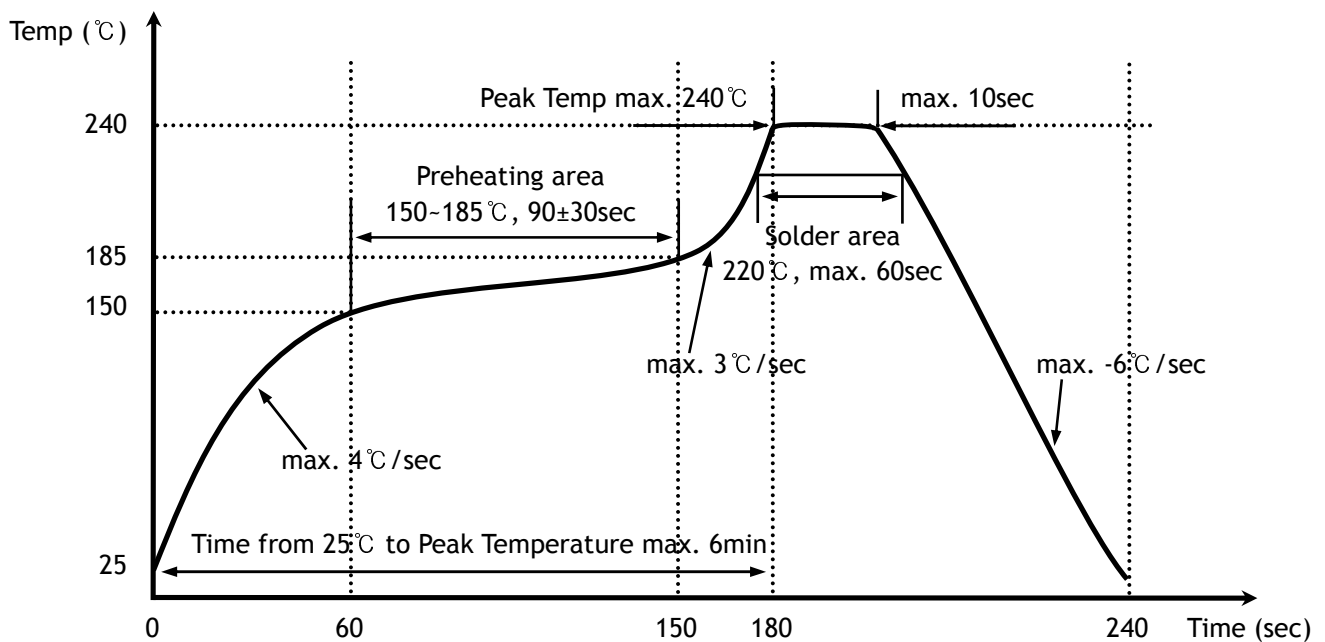
(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P _D	60	mW
Forward current	I _F	25	mA
*1 Peak forward current	I _{FP}	50	mA
Reverse voltage	V _R	4	V
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	$I_F=20\text{mA}$	2.0	-	2.4	V	
*3 Luminous intensity	I_V	$I_F=20\text{mA}$	4	-	17	mcd	
Peak wavelength	λ_P	$I_F=20\text{mA}$	558	561	565	nm	
Spectrum bandwidth	$\Delta\lambda$	$I_F=20\text{mA}$	-	30	-	nm	
Reverse current	I_R	$V_R=4\text{V}$	-	-	10	uA	
*4 Half angle	$\theta/2$	X	$I_F=20\text{mA}$	-	± 65	-	deg
		Y		-	± 70	-	

*3.The test result of $I_F=20\text{mA}$ is only for reference

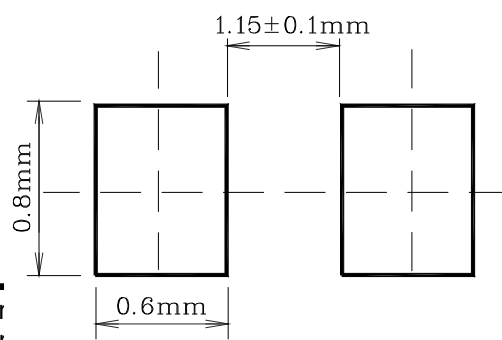
*4. $\theta/2$ is the off-axis angle where the luminous intensity is 1/2 the peak intensity

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

Test Condition @ $I_F=20\text{mA}$		
Forward Voltage [V]	Luminous Intensity [mcd]	Peak Wavelength [nm]
1 : 2.0~2.2	E : 4~6	a : 558~561
	F : 6~10	
2 : 2.2~2.4	G : 10~17	b : 561~565

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

* Recommended Soldering Land Pattern



The center
When using

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6. Characteristic Diagrams

Fig. 1 $I_F - V_F$

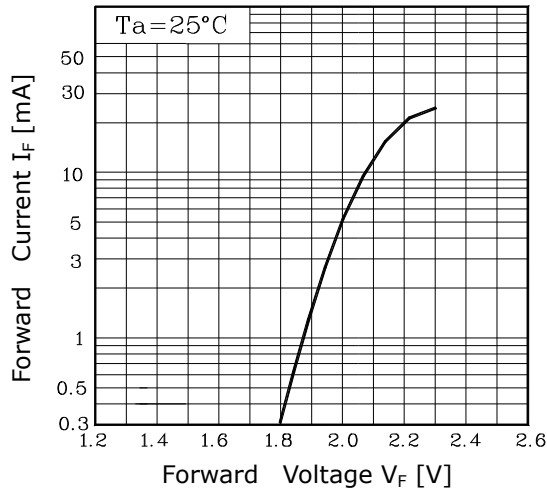


Fig. 2 $I_V - I_F$

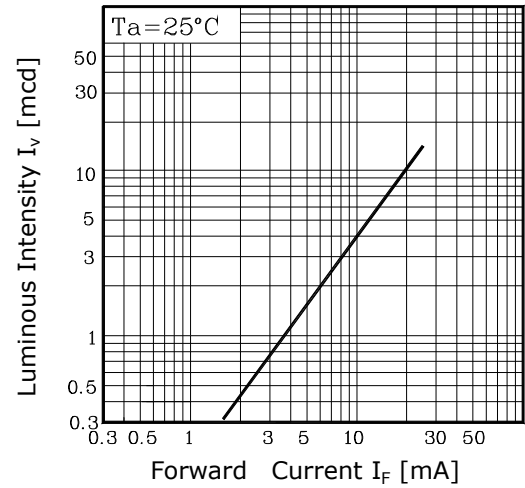


Fig. 3 $I_F - T_a$

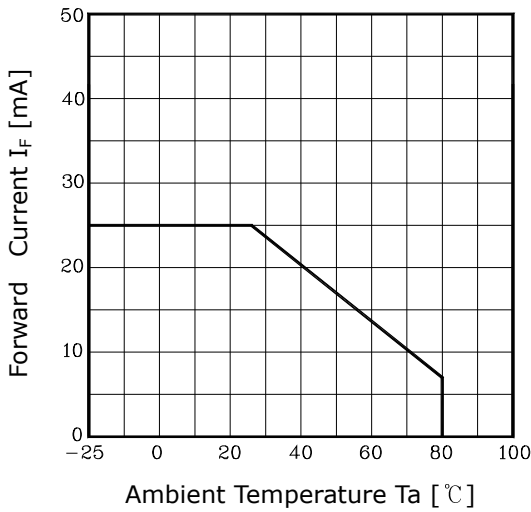


Fig.4 Spectrum Distribution

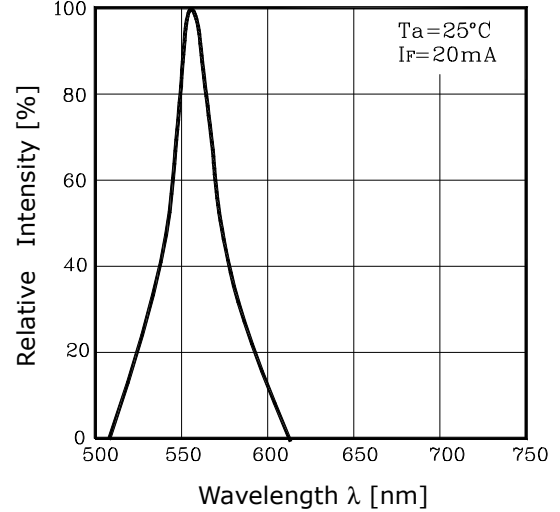


Fig. 5-1 Radiation Diagram(X)

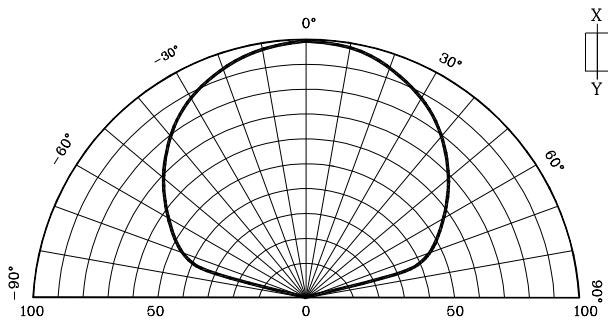
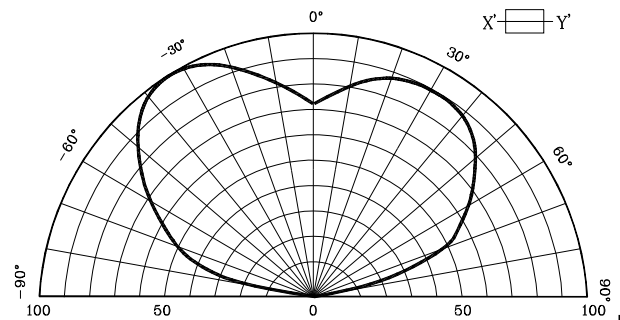


Fig. 5-2 Radiation Diagram(Y)



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Relative Luminous Intensity Iv [%]

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