

1. Features

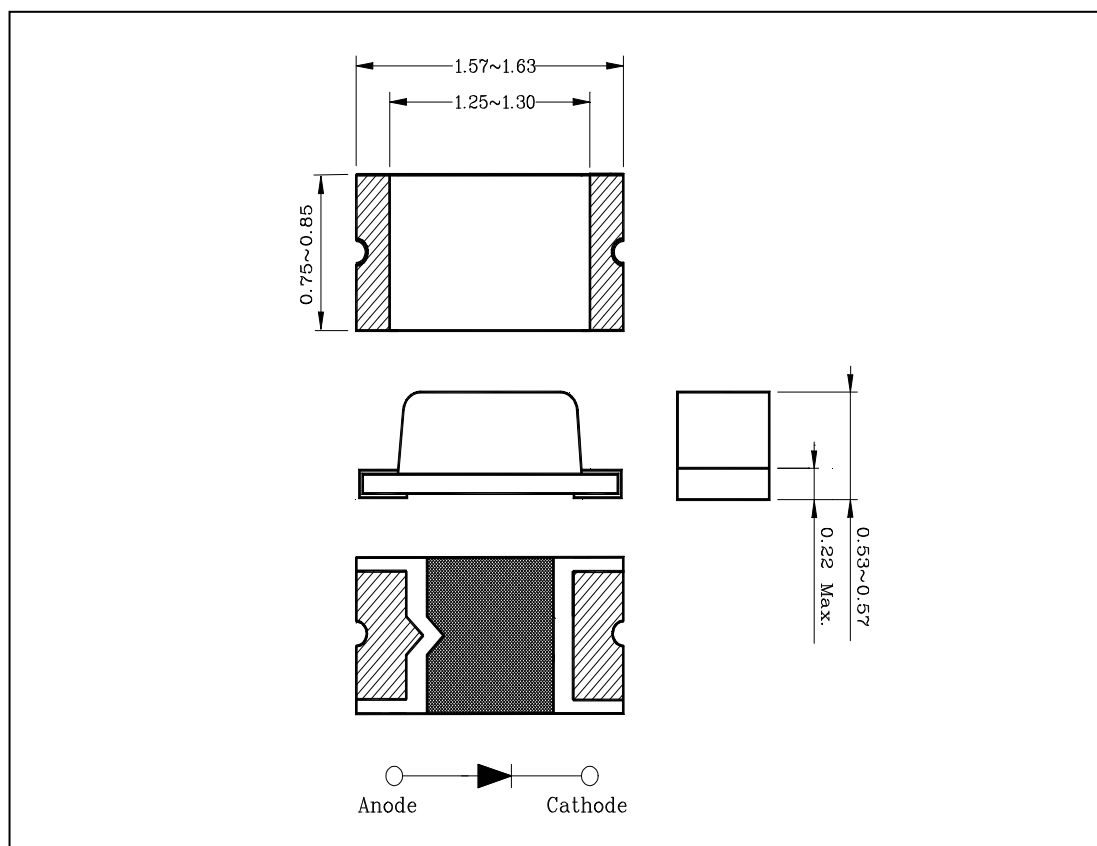
- ◆ 1.6mm(L)×0.8mm small size surface mount type
- ◆ Thin package of 0.55mm(H) thickness
- ◆ Diffusion lens optic
- ◆ Low power consumption type chip led

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

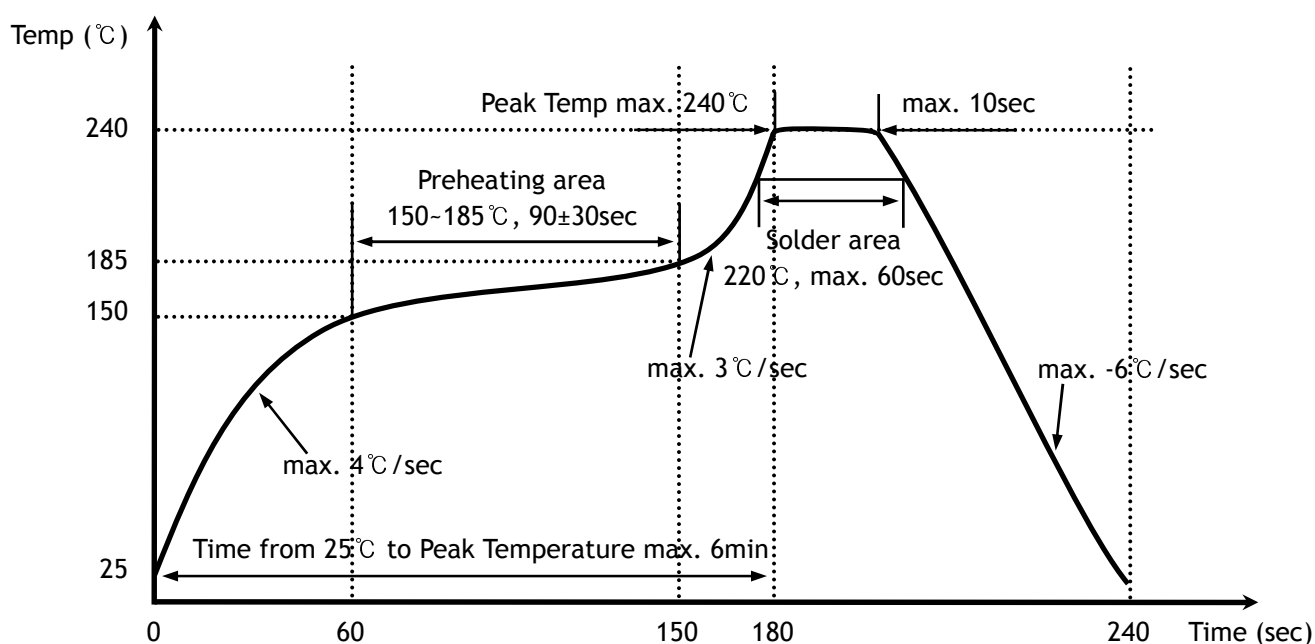
(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P_D	63	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	$I_F=20\text{mA}$	-	2.2	2.5	V	
*3 Luminous intensity	I_V	$I_F=20\text{mA}$	27	-	155	mcd	
Peak wavelength	λ_P	$I_F=20\text{mA}$	588	-	597	nm	
Spectrum bandwidth	$\Delta\lambda$	$I_F=20\text{mA}$	-	30	-	nm	
Reverse current	I_R	$V_R=4\text{V}$	-	-	10	μA	
*4 Half angle	$\theta_{1/2}$	X	$I_F=20\text{mA}$	-	± 65	-	deg
		Y		-	± 70	-	

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

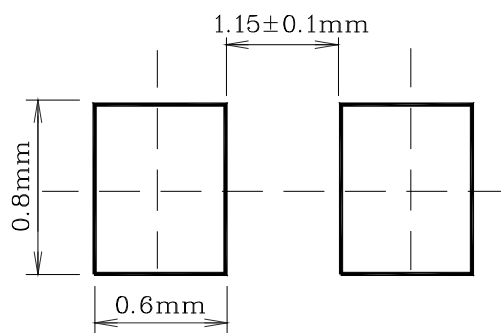
*4. $\theta_{1/2}$ is the off-axis angle where the luminous intensity is 1/2 the peak intensity

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

Test Condition @ $I_F=20\text{mA}$		
$V_F[\text{V}]$	Luminous Intensity[mcd]	Peak wavelength [nm]
1 : 1.95 ~ 2.2	I : 27~43	a : 588 ~ 590
	J : 43~68	b : 590 ~ 592
2 : 2.2 ~ 2.35	K : 68~100	c : 592 ~ 594
	L : 100~155	d : 594 ~ 597

(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



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6. Characteristic Diagrams

Fig. 1 $I_F - V_F$

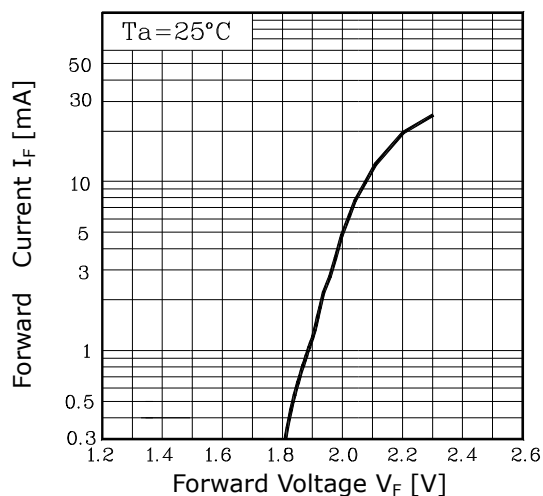


Fig. 2 $I_V - I_F$

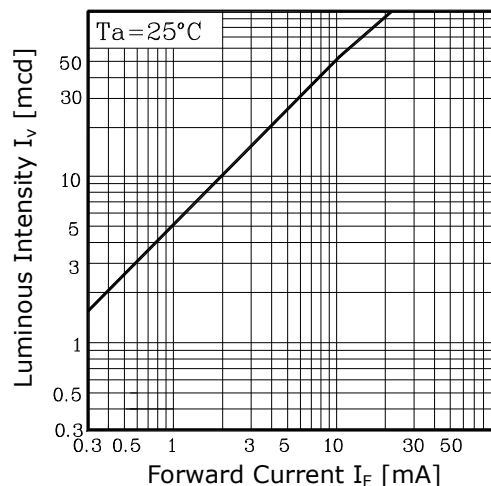


Fig. 3 $I_F - T_a$

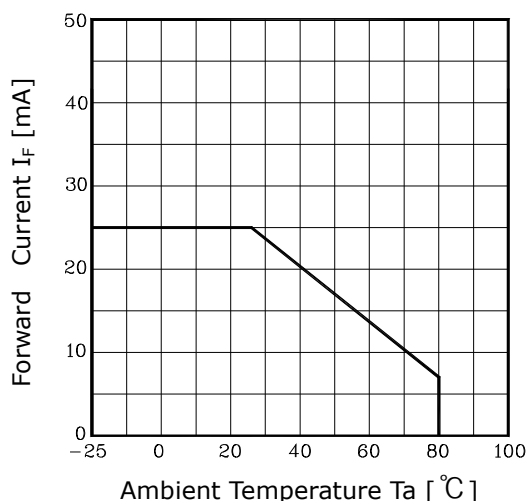


Fig.4 Spectrum Distribution

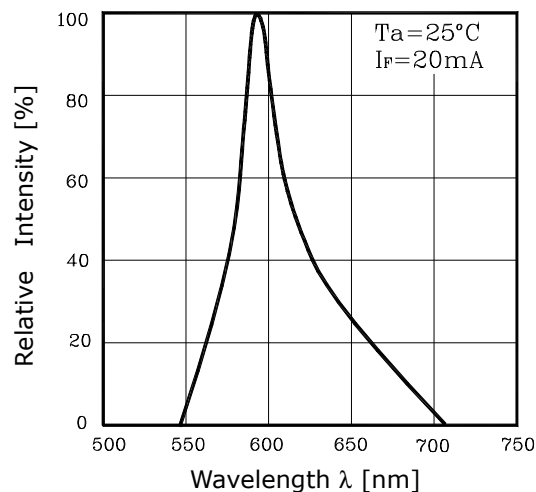


Fig. 5-1 Radiation Diagram(X)

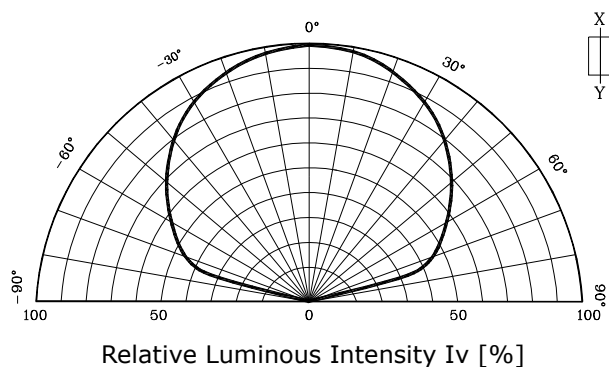
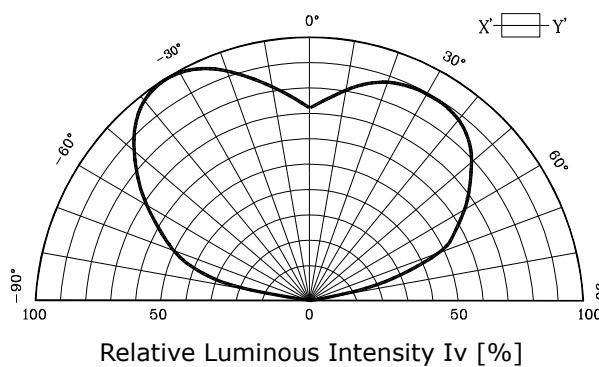


Fig. 5-2 Radiation Diagram(Y)



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