

Features

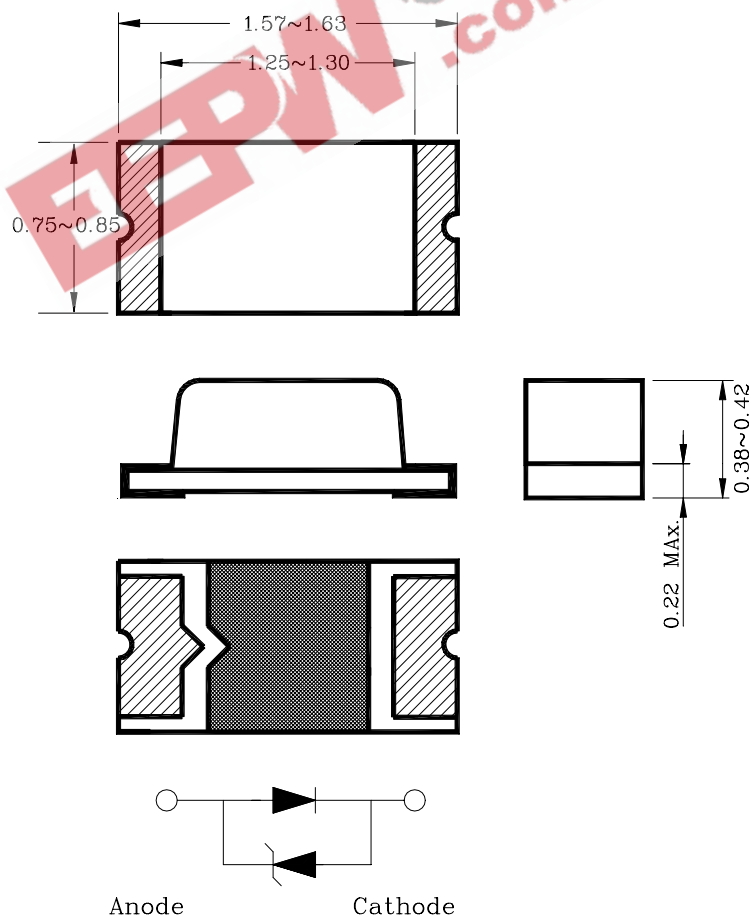
- 1.6mm(L)×0.8mm small size surface mount type
- Thin package of 0.4mm(H) thickness
- Transparent clear lens optic
- Low power consumption type chip LED
- Emitting Light Blue(470nm)
- **E ; ESD Protected ($\pm 2.0KV$, 3 Times @100pF, 1.5K Ω)**

Applications

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

Outline Dimensions

unit : mm



Absolute Maximum Ratings

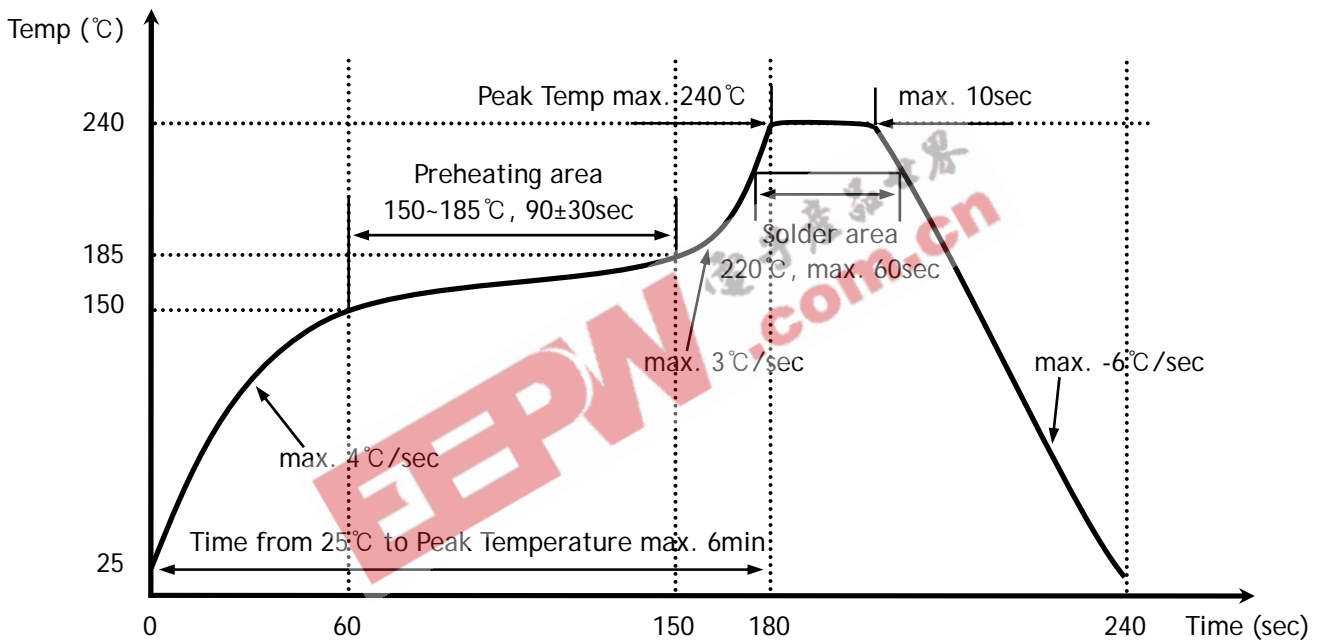
(Ta=25°C)

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	$I_F = 10 \text{ mA}$	5	-	30	mcd
*5 Peak wavelength	λ_P	$I_F = 10 \text{ mA}$	460	-	475	nm
Spectrum bandwidth	$\Delta\lambda$	$I_F = 10 \text{ mA}$	-	35	-	nm
*4 Half angle	$\theta_{1/2}$	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. λ_P Grade Classification (λ_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 : 5~10	a : 460~465
2 : 3.0~3.2	B : 10~18	b : 465~470
3 : 3.2~3.4	C : 18~30	c : 470~475

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



Characteristic Diagrams

Fig. 1 $I_F - V_F$

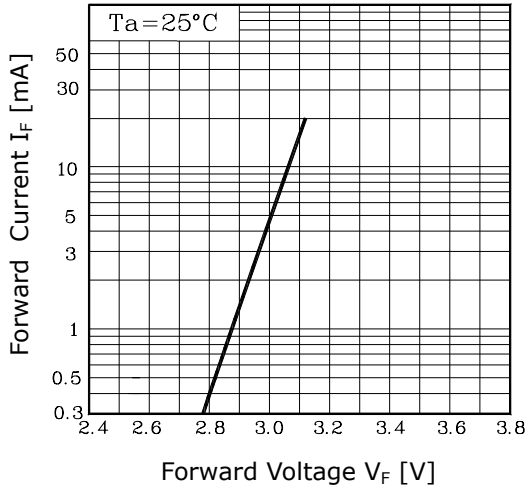


Fig. 2 $I_V - I_F$

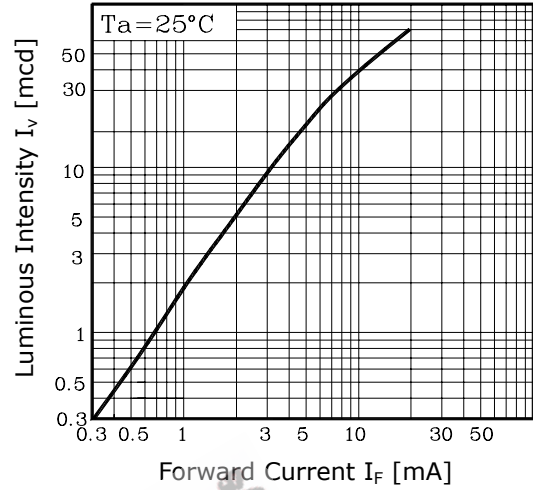


Fig. 3 $I_F - T_a$

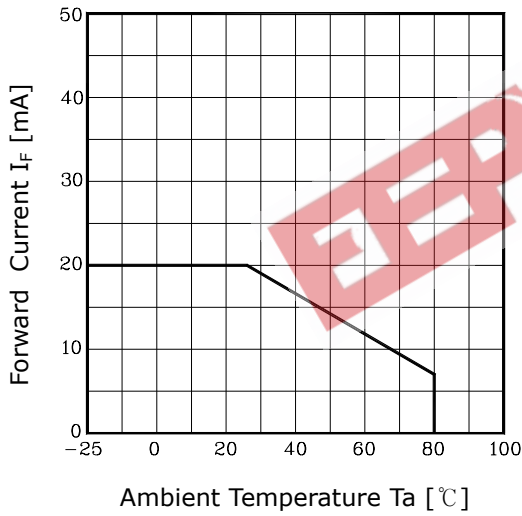


Fig. 4 Spectrum Distribution

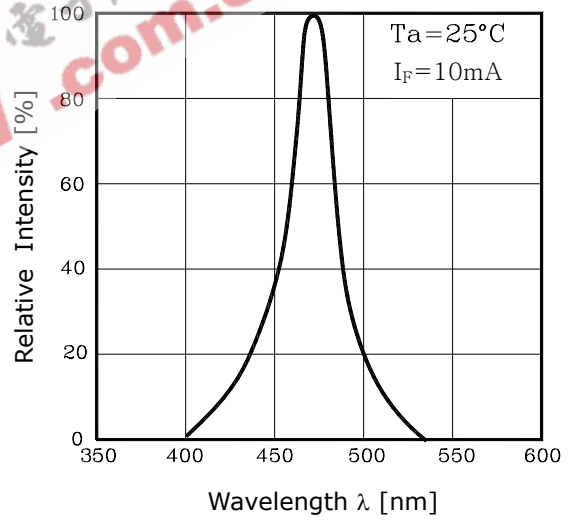


Fig. 5-1 Radiation Diagram(X)

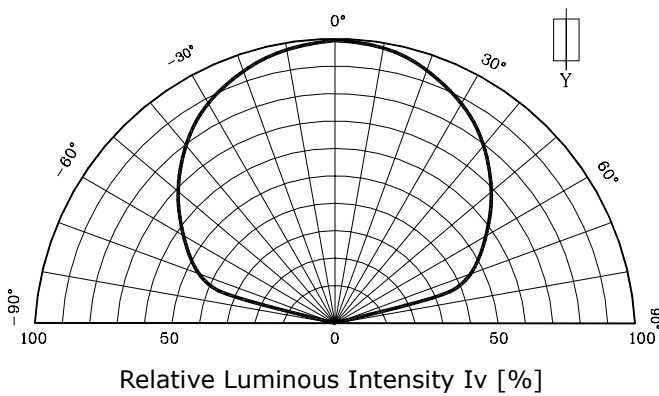
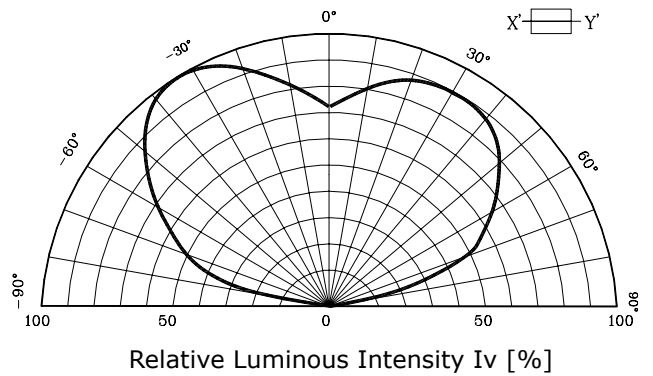


Fig. 5-2 Radiation Diagram(Y)



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