SB1316E-V

1. Features

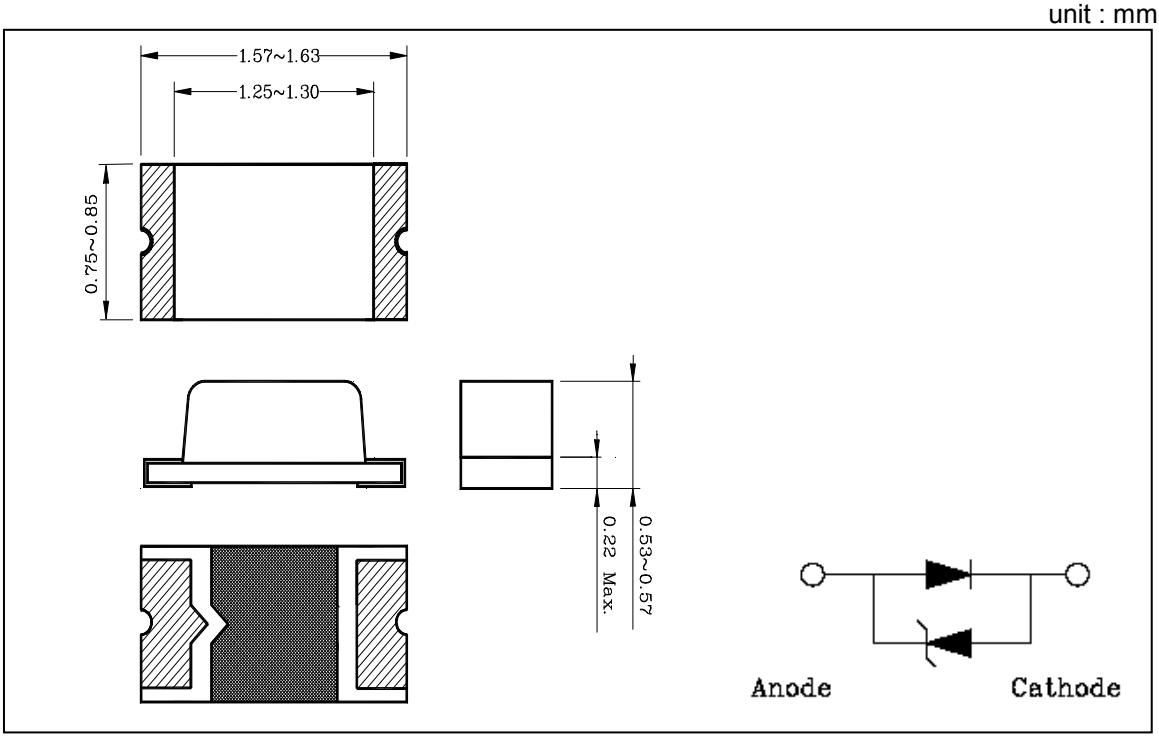
- 1.6mm(L)×0.8mm small size surface mount type
- Thin package of 0.55mm(H) thickness
- Transparent clear lens optic
- Low power consumption type chip LED
- Emitting Light Blue(470nm)
- **E ; ESD Protected (±2.0KV, 3 Times @100pF, 1.5KΩ)**

2. Applications

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

3. Outline Dimensions

unit : mm



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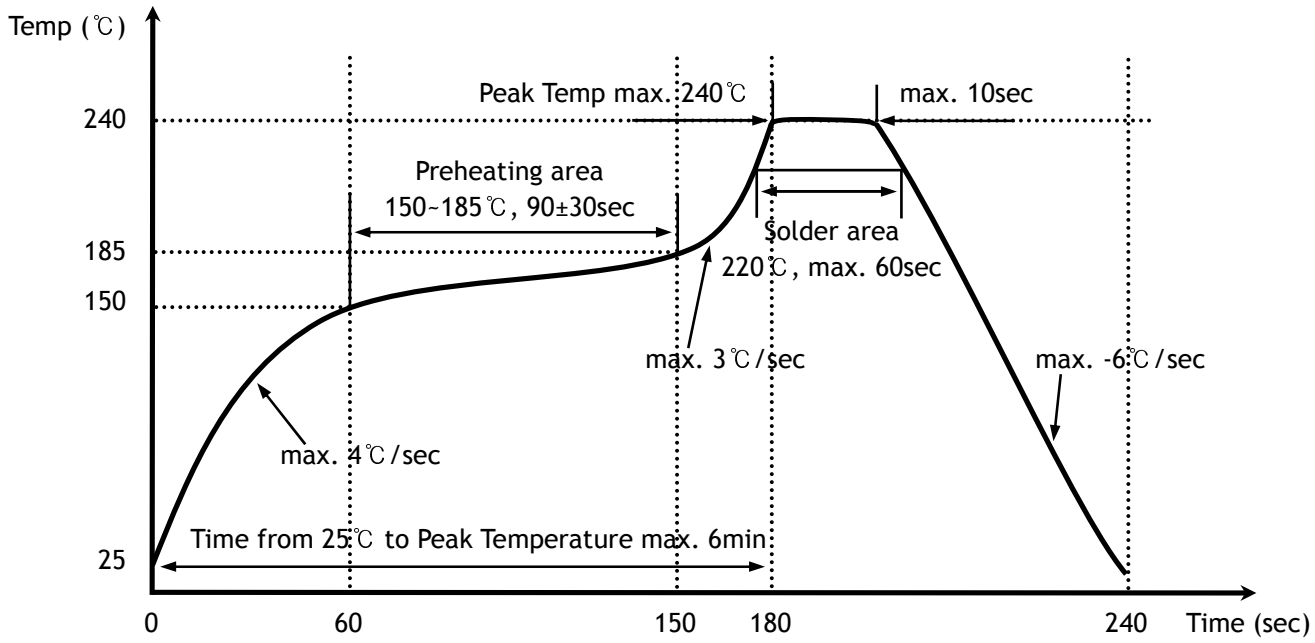
4. Absolute Maximum Ratings

(Ta=25°C)

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

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

*2.Recommended reflow soldering temperature profile
- Preheating 150℃ to 185℃ within 120 seconds soldering 240℃ within 10 seconds
Gradual cooling (Avoid quenching)



5. Electrical / Optical Characteristics

(Ta=25°C)

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

*3.The test result of I_F=10mA is only for reference

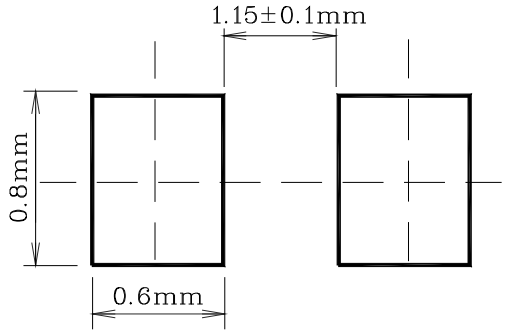
*4.θ /2 is the off-axis angle where the luminous intensity is 1/2 the peak intensity

◆ V_F / I_V / λ_P Grade Classification (Ta=25℃)

Test Condition @ I_F=10mA		
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	b : 465~470
3 : 3.2~3.4	C : 29~40	c : 470~475

(Each V_F, I_V, λ_P range did not consider a margin. Please refer to ±0.1V of V_F range, ±18% of I_V range, ±1nm 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



6. Characteristic Diagrams

Fig. 1 I_F - V_F

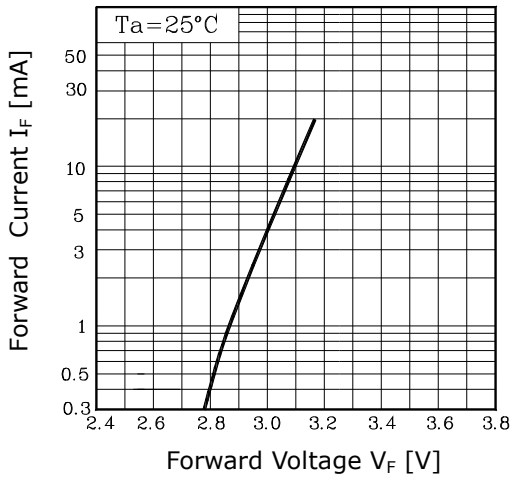


Fig. 2 I_V - I_F

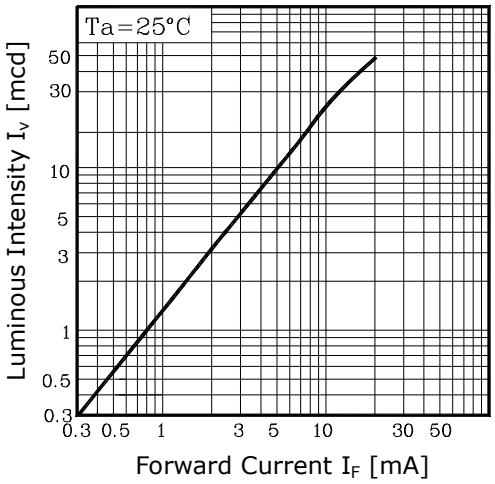


Fig. 3 I_F – Ta

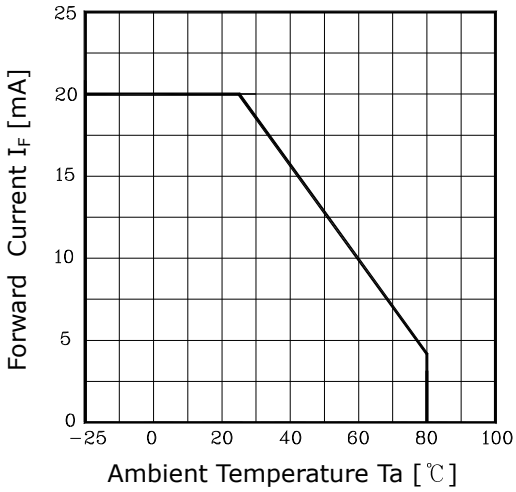


Fig.4 Spectrum Distribution

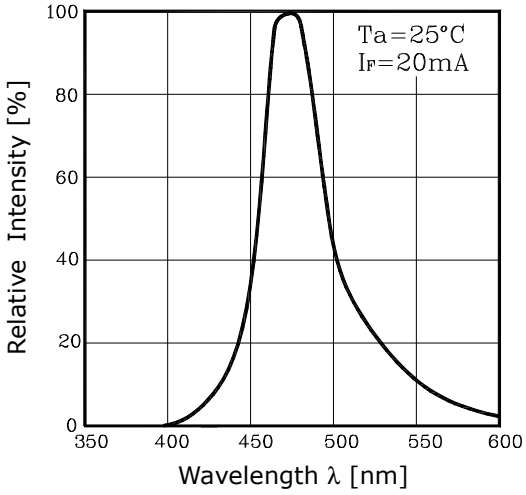


Fig. 5-1 Radiation Diagram(X)

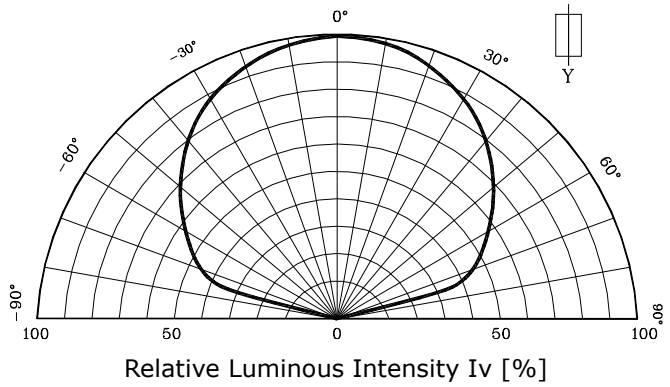
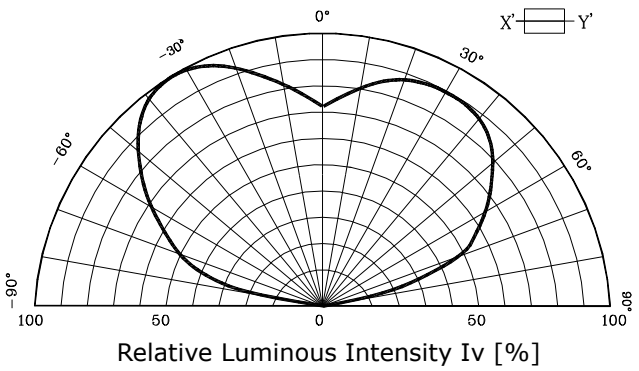


Fig. 5-2 Radiation Diagram(Y)



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