

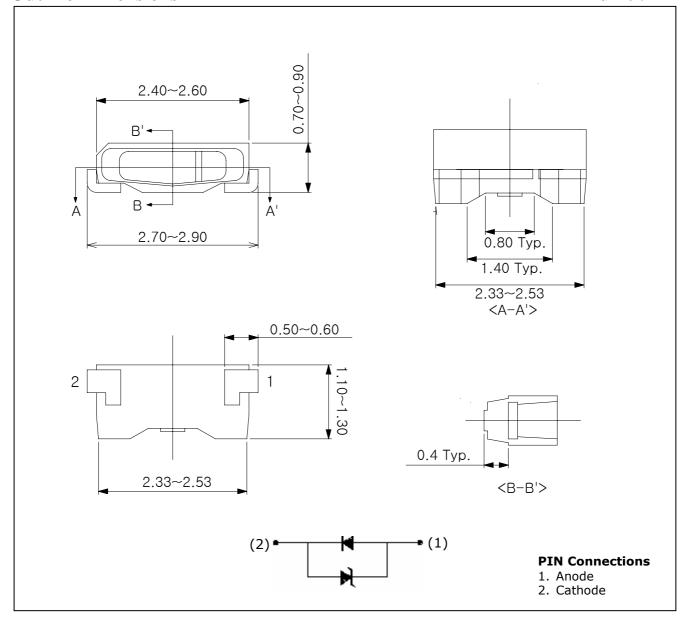
# **SB2321E-H**

**Side View LED** 

### **Features**

- 2.8mm(L)×1.2mm(W) small size surface mount type
- Thin package of 0.8mm(H) thickness
- Transparency SMD side view type
- Wide viewing angle: 110°
- E; ESD Protected (±2.0KV, 3 Times @100pF, 1.5KΩ)

## Outline Dimensions unit: mm

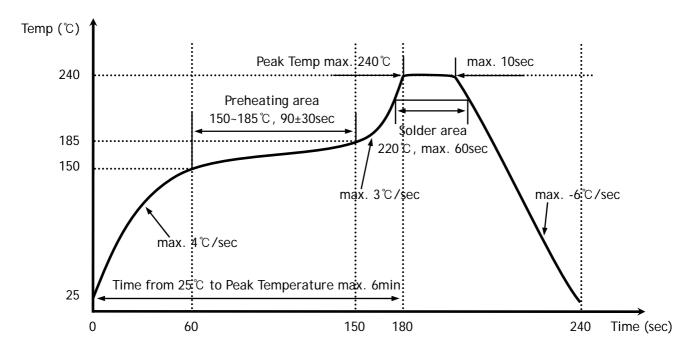


**Absolute Maximum Ratings** 

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P <sub>D</sub>	90	mW
Forward current	$I_{F}$	25	mA
* <sup>1</sup> Peak forward current	$I_{FP}$	50	mA
Operating temperature range	T <sub>opr</sub>	-30~85	$^{\circ}$
Storage temperature range	T <sub>stg</sub>	-40~100	${\mathbb C}$
*2Soldering temperature	T <sub>sol</sub>	240°C for 10 seconds	

<sup>\*1.</sup>Duty ratio = 1/16, Pulse width = 0.1ms



**Electrical / Optical Characteristics** 

 $(Ta=25^{\circ}C)$ 

Characteristic	Symbol	Test Condition	Min	Тур	Max	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	3.0	-	3.6	V
* <sup>3</sup> Luminous intensity	I <sub>V</sub>	I <sub>F</sub> = 20mA	68	-	230	mcd
Dominant wavelength	$\lambda_{D}$	I <sub>F</sub> = 20mA	460	465	470	nm
Spectrum bandwidth	$\Delta_{\lambda}$	I <sub>F</sub> = 20mA	-	35	-	nm
* <sup>4</sup> Half angle	θ1/2	I <sub>F</sub> = 20mA		±55		deg

<sup>\*2.</sup> Recommended reflow soldering temperature profile

- \*3. Luminous intensity maximum tolerance for each grade classification limit is  $\pm 18\%$  (The test result of  $I_F$ =20mA is only for reference)
- \*4.  $\theta$ 1/2 is the off-axis angle where the luminous intensity is 1/2 the peak intensity

### • $V_F / I_V / \lambda_D$ Grade Classification (Ta=25°C)

Test Condition @ $I_F = 20mA$					
Forward Voltage [V]	Luminous Intensity [mcd]	Dominant Wavelength [nm]			
1:3.0~3.3	K: 68~100	a: 460~465			
	L: 100~155				
2:3.3~3.6	M: 155~230	b: 465~470			

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

## **Characteristic Diagrams**

Fig. 1  $I_F$  -  $V_F$ 

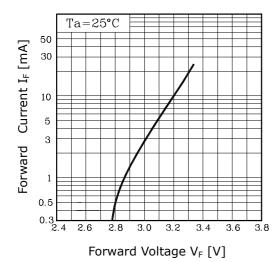


Fig. 2  $I_V$  -  $I_F$ 

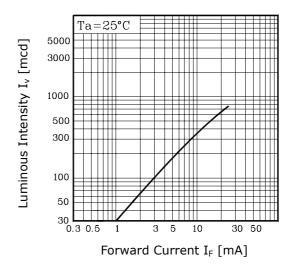
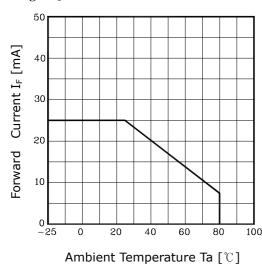


Fig.  $3 I_F - Ta$ 



**Fig.4 Spectrum Distribution** 

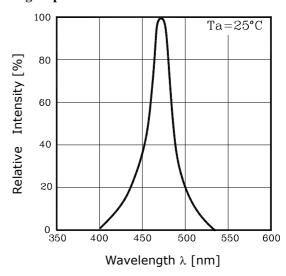
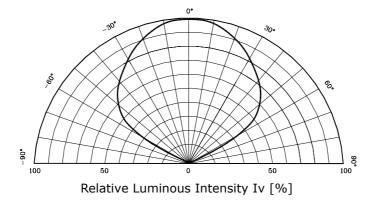


Fig. 5-1 Radiation Diagram(X)



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