

# **SM1316-D**

**Chip LED Lamp** 

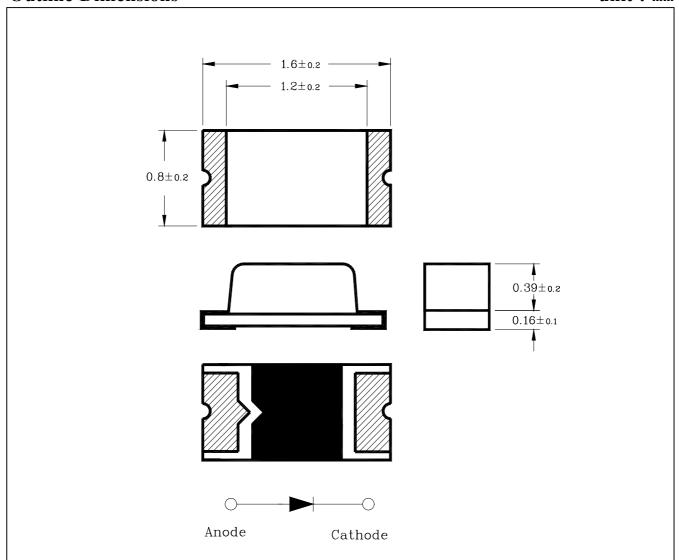
### **Features**

- 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

### **Applications**

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

## Outline Dimensions unit: mm



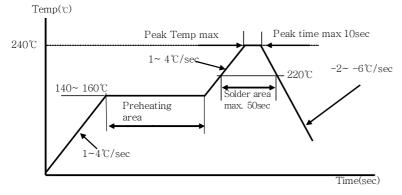
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### Absolute maximum ratings

Characteristic	Symbol	Ratings	Unit
Power Dissipation	$P_D$	70	mW
Forward Current	$I_{F}$	25	mA
*1Peak Forward Current	${ m I}_{\sf FP}$	50	mA
Reverse Voltage	$V_R$	4	V
Operating Temperature	T <sub>opr</sub>	-25~80	$^{\circ}$ C
Storage Temperature	T <sub>stg</sub>	-30~100	$^{\circ}$
*2Soldering Temperature	T <sub>sol</sub>	240℃ for 5 seconds	

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

<sup>\*2.</sup>Recommended soldering Temperature Profile (Reflow Soldering)



### **Electrical Characteristics**

Characteristic	Symbol	Test Condition	Min	Тур	Max	Unit
Forward Voltage	$V_{F}$	I <sub>F</sub> = 10mA	-	2.0	2.6	V
* <sup>4</sup> Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> = 10mA	6.6	15	27	mcd
* <sup>5</sup> Peak Wavelength	$\lambda_{\mathrm{P}}$	$I_{\text{F}}$ = 10mA	-	572	-	nm
Spectrum Bandwidth	Δλ	I <sub>F</sub> = 10mA	-	30	-	nm
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =4V	-	-	10	uA
* <sup>3</sup> Half angle	θ1/2 X	$I_{\text{F}}=10\text{mA}$	-	±65	-	deg
	Ψ1/2 Y	-	±70	-	ueg	

<sup>\*3.</sup>  $\theta$ 1/2 is the off-axis angle where the luminous intensity is 1/2 the peak intensity

<sup>\*4.</sup> Luminous Intensity classification

F	G	Н
6.6~10	10~17	17~27

<sup>\*5.</sup> Peak Wavelength Maximum tolerance for each Grade Classification limit is  $\pm 1$ nm

#### \*5. Peak Wavelength classification

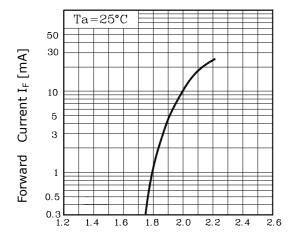
a	b ,	С
569~572	573~575	576~578

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<sup>\*4.</sup> Luminous Intensity Maximum tolerance for each Grade Classification limit is  $\pm 18\%$ 

# **Characteristic Diagrams**

Fig. 1  $I_{\text{F}}$  -  $V_{\text{F}}$ 



Forward Voltage  $V_F[V]$ 

Fig.  $3 I_F - Ta$ 

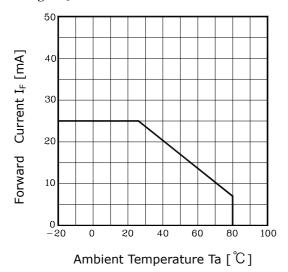
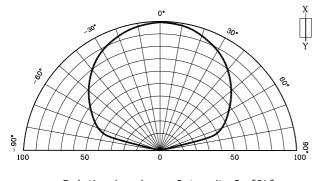
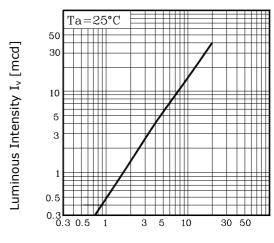


Fig. 5-1 Radiation Diagram(X)



Relative Luminous Intensity Iv [%]

Fig. 2  $I_{\rm V}$  -  $I_{\rm F}$ 



Forward Current I<sub>F</sub> [mA]

**Fig.4 Spectrum Distribution** 

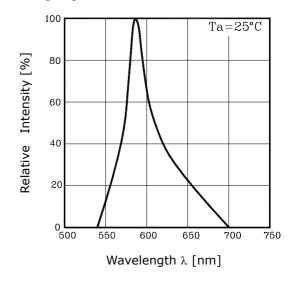
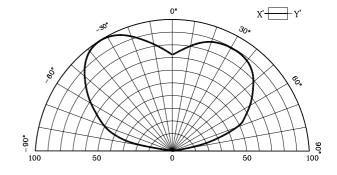


Fig. 5-2 Radiation Diagram(Y)



Relative Luminous Intensity Iv [%]

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