

**Oval Type High Efficiency LED Lamp** 

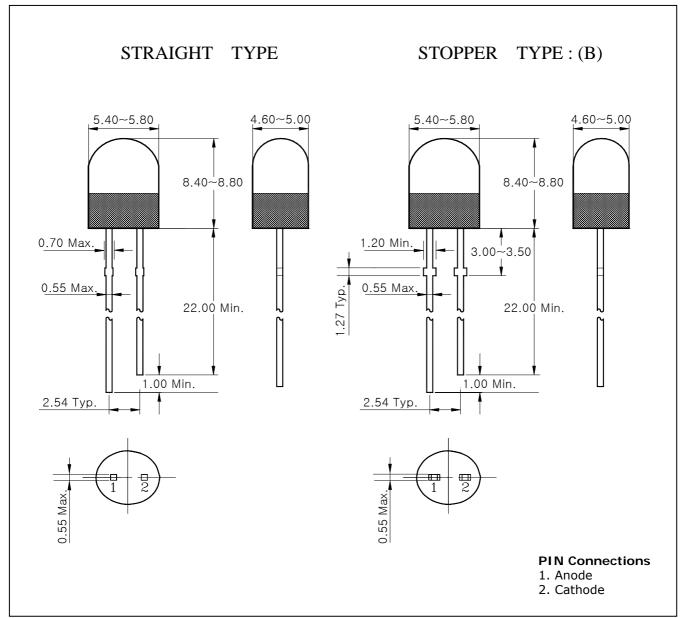
#### **Features**

- Red colored transparency lens type
- Colorless transparency lens type
- \$5mm(T-13/4) all plastic mold type
- Super luminosity

### **Application**

- Traffic Signal
- Message Board

Outline Dimensions unit: mm



KSD-O3C009-000

**Absolute Maximum Ratings** 

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

Characteristic	Symbol	Ratings	Unit
Power dissipation	$P_{D}$	100	mW
Forward current	$I_{F}$	40	mA
*1Peak forward current	${ m I}_{\sf FP}$	50	mA
Reverse voltage	$V_R$	4	V
Operating temperature range	$T_{opr}$	-25~85	$^{\circ}$
Storage temperature range	T <sub>stg</sub>	-30~100	$^{\circ}$
*2Soldering temperature	T <sub>sol</sub>	260° for 10 seconds	

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

<sup>\*2.</sup>Keep the distance more than 2.0mm from PCB to the bottom of LED package



**Electrical / Optical Characteristics** 

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

Characteristic	Symbol	Test Condition	Min	Тур	Max	Unit
Forward voltage	$V_{F}$	I <sub>F</sub> = 20mA	-	2.1	2.5	V
* <sup>4</sup> Luminous intensity	$I_{V}$	I <sub>F</sub> = 20mA	780	-	1700	mcd
Dominant wavelength	$\lambda_{D}$	I <sub>F</sub> = 20mA	614	622	630	nm
Spectrum bandwidth	$\Delta_{\lambda}$	I <sub>F</sub> = 20mA	-	17	-	nm
Reverse current	$I_{R}$	V <sub>R</sub> =4V	-	-	10	uA
* <sup>3</sup> Half angle	01/2 X	$\theta 1/2$ $X$ $I_F = 20 \text{mA}$	-	±30	-	deg
	V1/2 Y		-	±15	-	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

$Q_1$	$Q_2$	$R_1$
780~1010	1010~1300	1300~1700

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<sup>\*4</sup>. Luminous intensity maximum tolerance for each grade classification limit is  $\pm 18\%$ 

### **Characteristic Diagrams**

Fig. 1  $I_F$  -  $V_F$ 

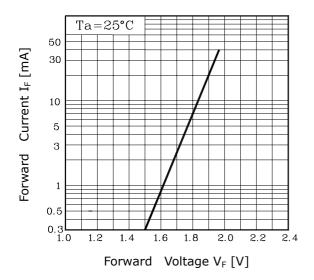


Fig. 2  $I_V$  -  $I_F$ 

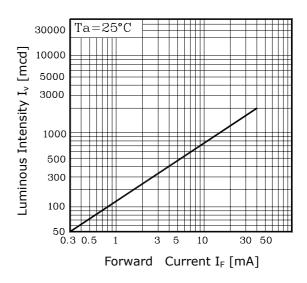
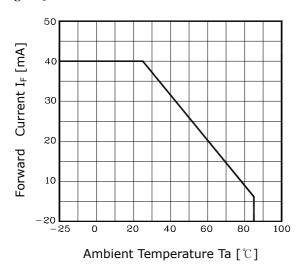


Fig.  $3 I_F - Ta$ 



**Fig.4 Spectrum Distribution** 

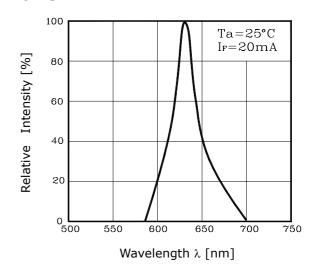
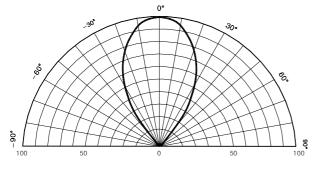
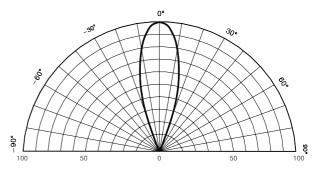


Fig. 5-1 Radiation Diagram(X)



Relative Luminous Intensity Iv [%]

Fig. 5-2 Radiation Diagram(Y)



Relative Luminous Intensity Iv [%]

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