

### 1. Descriptions

The KB1611O60 (KLB-11O) is a very small-sized chip LED which makes right  
- angle mounting available.

### 2. Features

- ◆ Small Footprint Surface Mount Package ( 1.6L×0.55W×1.15H [mm])
- ◆ Forward Voltage( $V_F$ ) from 1.6 to 2.4V @ Forward Current( $I_F$ )=20mA
- ◆ Operation Temperature from -20℃ to +85℃
- ◆ High Electric Static Discharge(ESD) Voltage above than 1,000V for HBM
- ◆ High Luminous Intensity( $I_V$ ) is typical 85mcd @  $I_F$ =20mA

### 3. Application

- ◆ Cellular Phone Key Pad Back Light
- ◆ Indoor Display Modules
- ◆ Indicators for Electrical Appliances

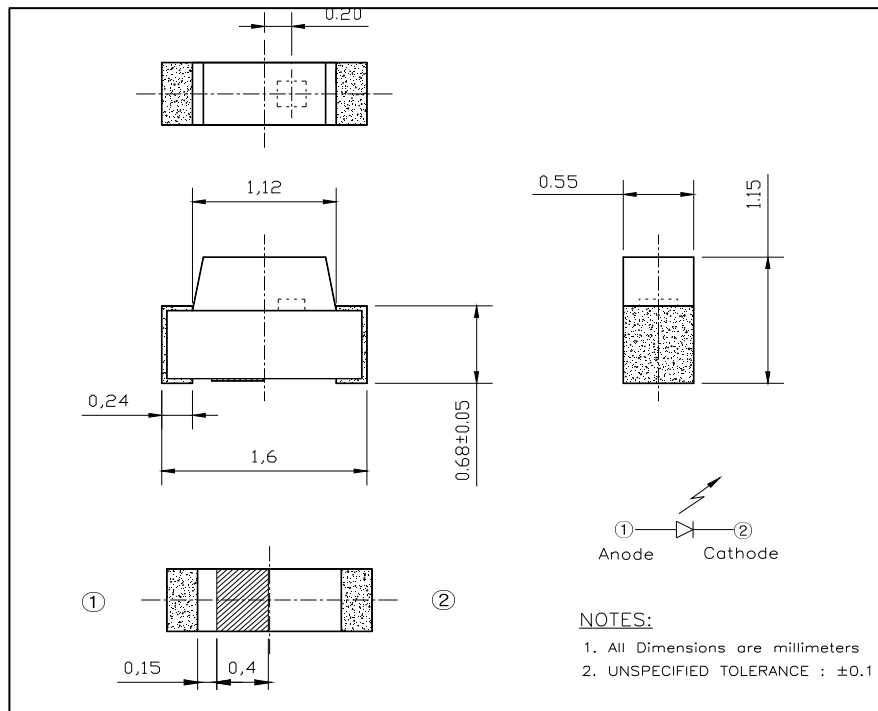
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The contents of this data sheet are subject to change without advance notice for the purpose of improvement.  
When using this product, would you please refer to the latest specifications.

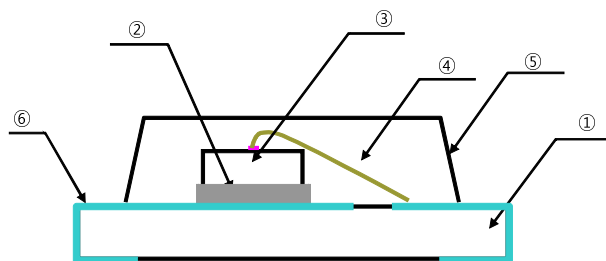
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**4. Outline Dimensions and Material Descriptions**

◆ **Outline Dimensions**



◆ **Material Descriptions**



No.	ITEM	Material
①	PCB	BT Resin
②	Paste	Ag Epoxy
③	LED Chip	AlInGaP
④	Wire	Au
⑤	Encapsulant	Clear Epoxy
⑥	Electrode	Au Plated Cu

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## KB1611O60 (KLB-110)

## 5. Absolute Maximums

ITEM	Symbol	MIN	MAX	Unit	Conditions
Forward Current	$I_F$	-	20	mA	
Peak Forward Current*	$I_{FP}$	-	40	mA	
Power Dissipation	$P_D$	-	120	mW	
Reverse Voltage	$V_R$	-	5	V	
Operating Temperature	$T_{OP}$	-20	85	°C	
Storage Temperature	$T_s$	-30	100	°C	
Soldering Temperature	$T_{sol}$		260	°C	5 Sec

\* Remark : Duty Ratio : 1/10, Pulse Width : 10ms

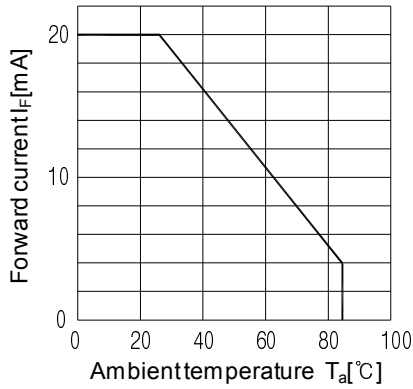
6. Electro-Optical Characteristics ( $T_A = 25\text{ }^\circ\text{C}$ )

ITEM	Symbol	MIN	TYP	MAX	Unit	Conditions
Forward Voltage	$V_F$	1.6	-	2.4	V	$I_F=20\text{mA}$
Intensity	$I_V$	59	-	-	mcd	$I_F=20\text{mA}$
Dominant Wavelength	$W_D$	599	-	611	nm	$I_F=20\text{mA}$
Reverse Current	$I_R$	-	-	10	$\mu\text{A}$	$V_R=5\text{V}$
FWHM	$\Delta\lambda$	-	20	-	nm	$I_F=20\text{mA}$

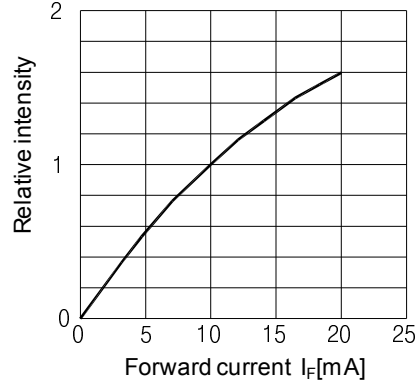
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8. Characteristic Graphs

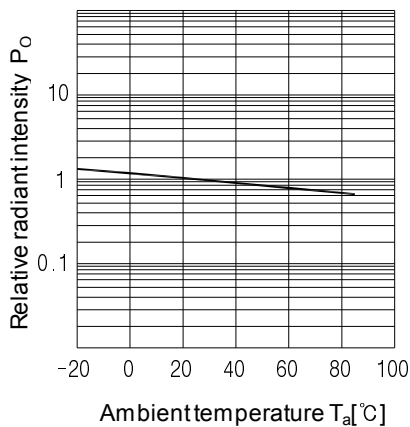
Forward current vs. Ambient temperature



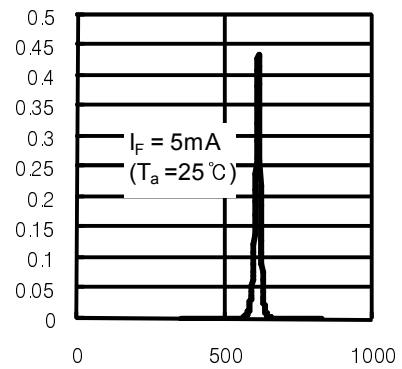
Radiant Intensity vs. Forward current



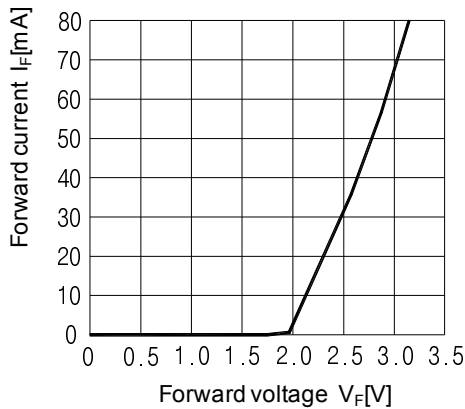
Relative radiant intensity vs. Ambient temperature



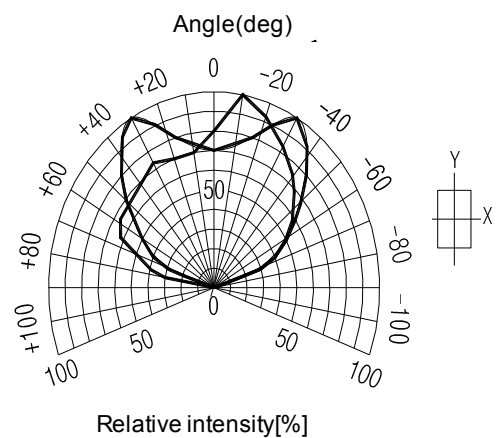
Relative intensity vs. Wavelength



Forward current vs. Forward voltage



Radiant Pattern



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