



## Top Infrared LED

MODEL NO : HIR67-23C/L11/TR8

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### ■ Features :

- High radiant intensity
- Peak wavelength  $\lambda_p=850\text{nm}$
- View angle  $130^\circ$
- High reliability
- Small double-end package

### ■ Description :

- HIR67-23C/L11/TR8 is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with flat top view lens. The device is spectrally matched with silicon photodiode and phototransistor.

### ■ Applications :

- Infrared source in tactile keyboard
- IR diode in low space application
- High performance PCB mounted infrared sensor

PART NO.	CHIP	LENS COLOR
	MATERIAL	
HIR	GaAlAs	Water Clear

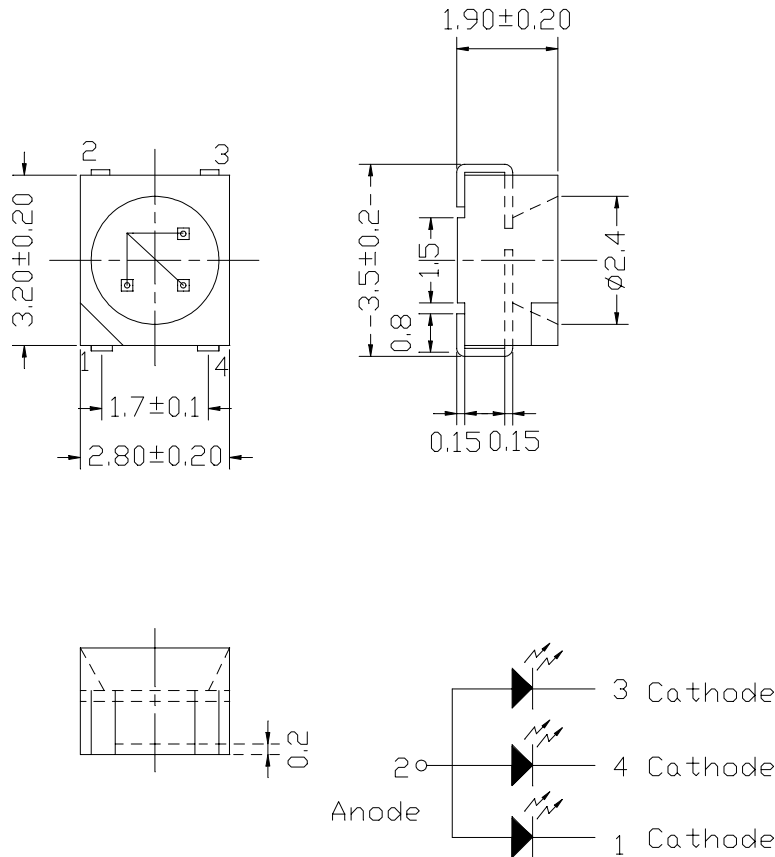
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### ■ Package Dimensions :



### ■ Notes :

- 1.All dimensions are in millimeter.
- 2.General tolerance:  $\pm 0.1$ mm
- 3.Lens color : Water Clear.
- 4.Above specification may be changed without notice. EVERLIGHT will reserve authority On material change for above specification.
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### ■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit	Notice
Continuous Forward Current	$I_F$	65	mA	
Peak Forward Current Pulse width=100 $\mu$ s,Duty cycle=1%	$I_{FP}$	1.0	A	
Reverse Voltage	$V_R$	5	V	
Operating Temperature	Topr	-25 to+85	°C	
Storage Temperature	Tstg	-40 to+85	°C	
Soldering Temperature	Tsol	260	°C	
Power Dissipation at(or below) 25°C Free Air Temperature	Pd	130	mW	

### ■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	Ee	3.0	6.0	---	mW/sr	$I_F=60\text{mA}$
		---	25	---		$I_F=300\text{mA}, t_p=100\ \mu\text{s}, t_p/T=0.01$
Peak Wavelength	$\lambda_p$	---	850	---	nm	$I_F=20\text{mA}$
Spectral Bandwidth	$\Delta\lambda$	---	45	---	nm	$I_F=20\text{mA}$
Forward Voltage	$V_F$	---	1.45	1.65	V	$I_F=20\text{mA}$
		---	1.80	2.40		$I_F=100\text{mA}, t_p=100\ \mu\text{s}, t_p/T=0.01$
		---	4.10	5.25		$I_F=1\text{A}, t_p=100\ \mu\text{s}, t_p/T=0.01$
Reverse Current	$I_R$	---	---	10	$\mu\text{A}$	$V_R=5\text{V}$
View Angle	$2\theta_{1/2}$	---	130	---	deg	$I_F=20\text{mA}$

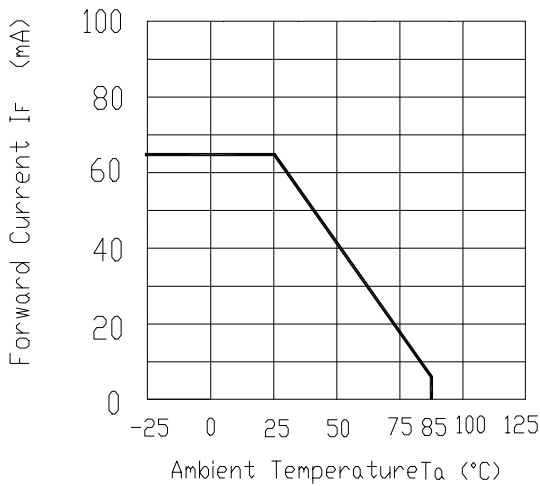


## Top Infrared LED

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### ■ Typical Electrical/Optical/Characteristics Curves

Fig. 1 Forward Current vs. Ambient Temperature



Relative Radiant Intensity (%)

Fig. 2 Spectral Distribution

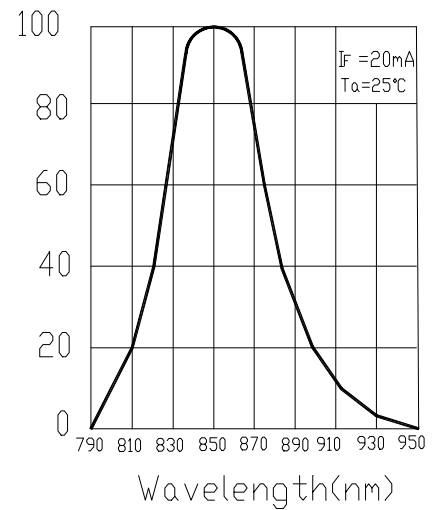


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

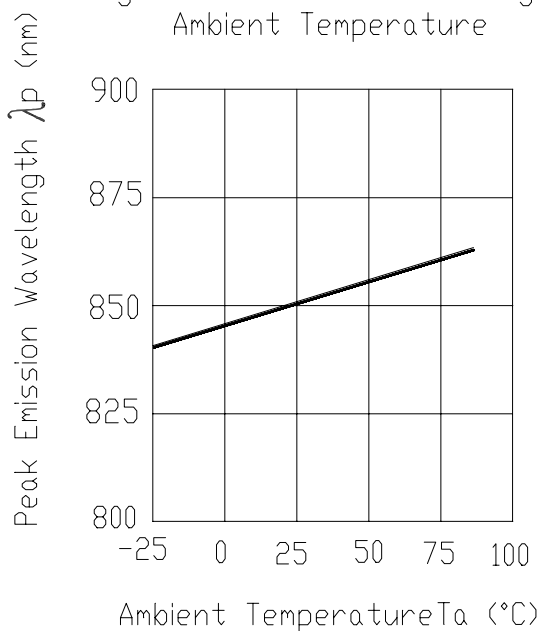
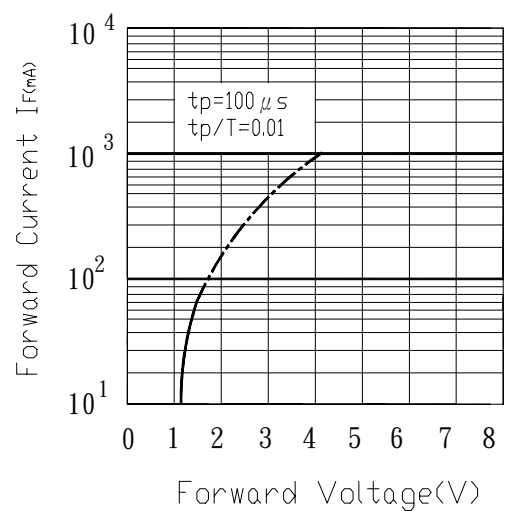


Fig. 4 Forward Current vs. Forward Voltage





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### ■ Typical Electrical/Optical/Characteristics Curves

Fig. 5 Relative Intensity vs. Forward Current

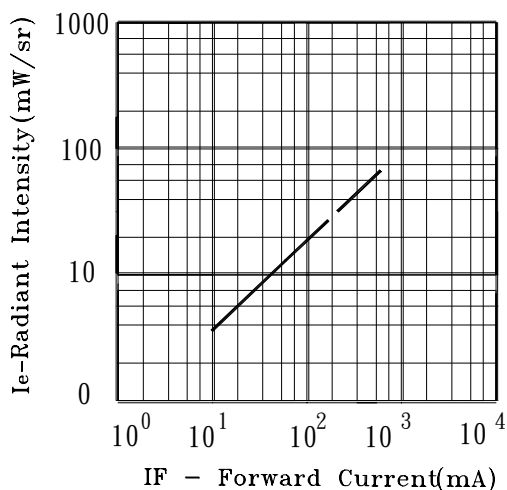


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

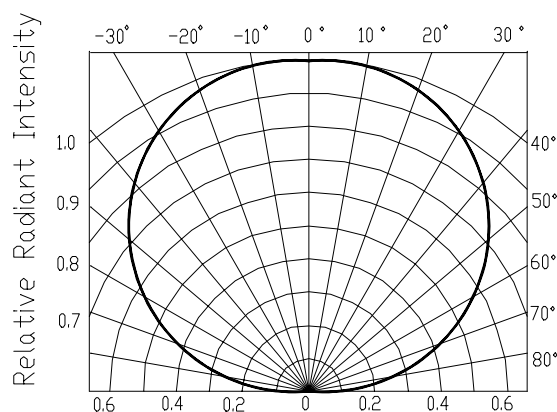


Fig. 7 Relative Intensity vs. Ambient Temperature

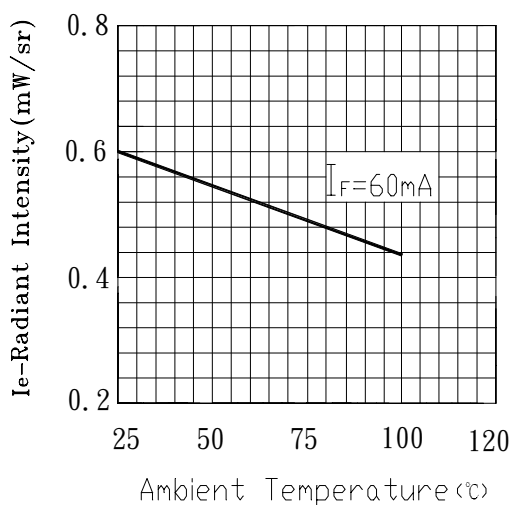
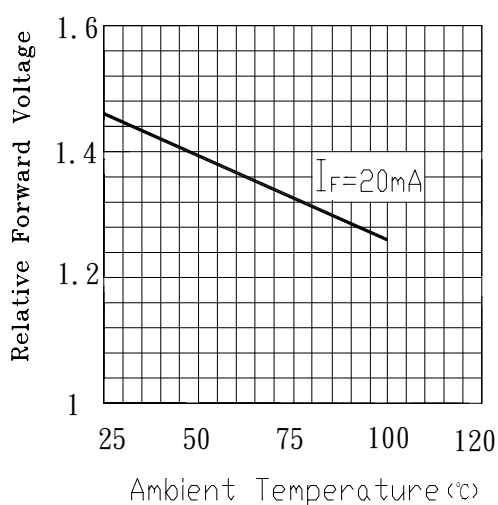


Fig. 8 Forward Current vs. Ambient Temperature





# EVERLIGHT ELECTRONICS CO., LTD.

DEVICE NUMBER : DTH-672-001      REV : 1.1  
 ECN : \_\_\_\_\_      PAGE : 6/8

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### ■ Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level:90%

LTPD:10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Size	Failure Judgement Criteria	Ac/Re
1	REFLOW	TEMP : 240°C ± 5 °C 5 secs	6 mins	22 pcs	More than 90% of lead to be covered by soldering	0/1
2	Temperature Cycle	H : +85°C      30 mins  L : -55°C      30 mins	50 cycles	22 pcs	$I_R \geq U \times 2$ $E_e \leq L \times 0.8$ $V_F \geq U \times 1.2$	0/1
3	Thermal Shock	H : +100°C      5 mins  L : -10°C      5 mins	50 cycles	22 pcs	U :Upper specification limit L :Lower specification limit	0/1
4	High Temperature Storage	TEMP. : +100°C	1000 hrs	22 pcs		0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 hrs	22 pcs		0/1
6	DC Operating Life	$I_F = 20\text{mA}$	1000 hrs	22 pcs		0/1
7	High Temperature / High Humidity	85°C / 85% R.H.	1000 hrs	22 pcs		0/1

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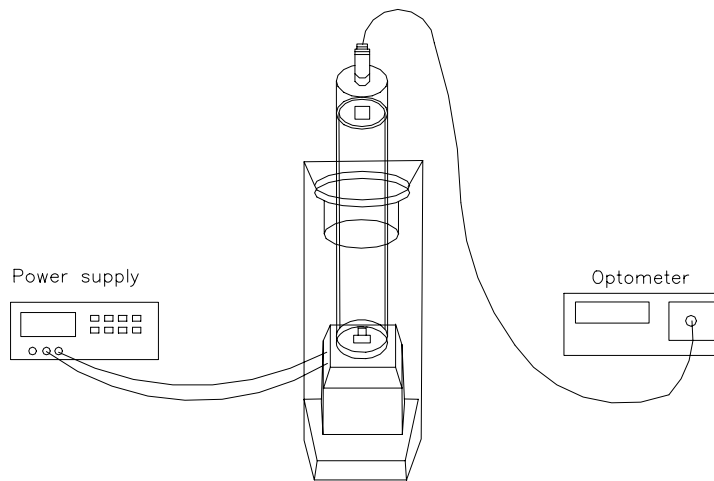
MODEL NO : HIR67-23C/L11/TR8

### Test Method For Power :

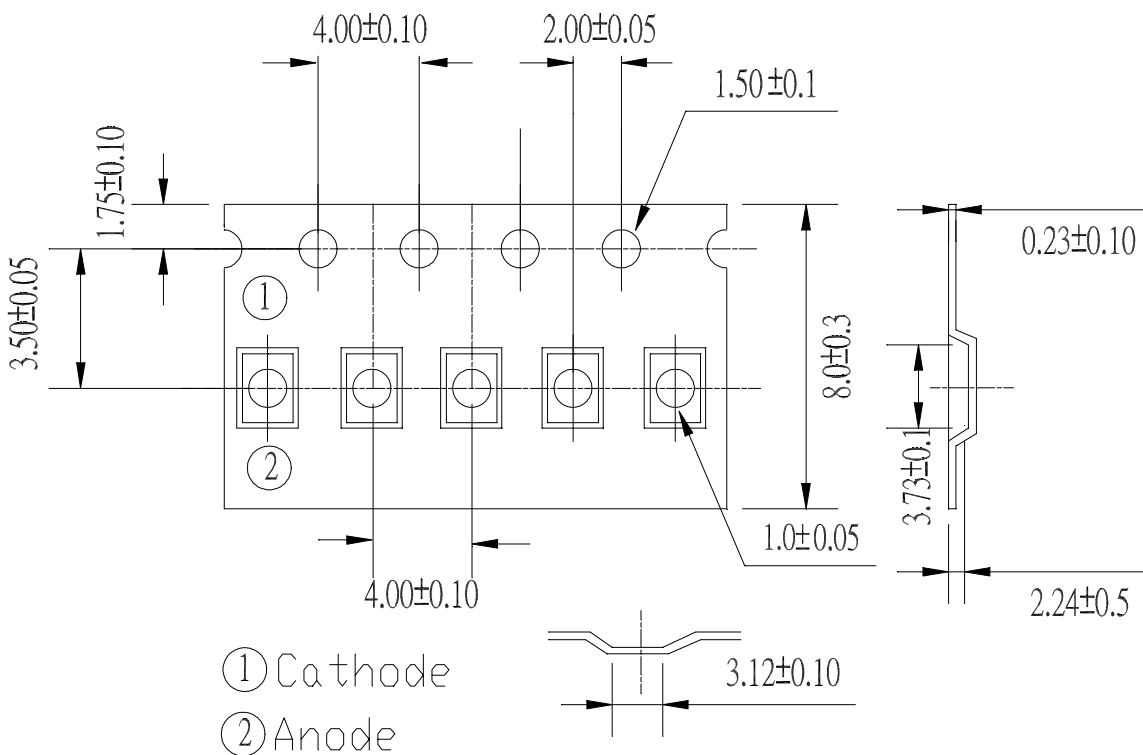
Condition :  $I_f=20 \text{ mA}$

Test Item : Radiant Intensity

Unit : mW/sr



### Taping Dimensions:



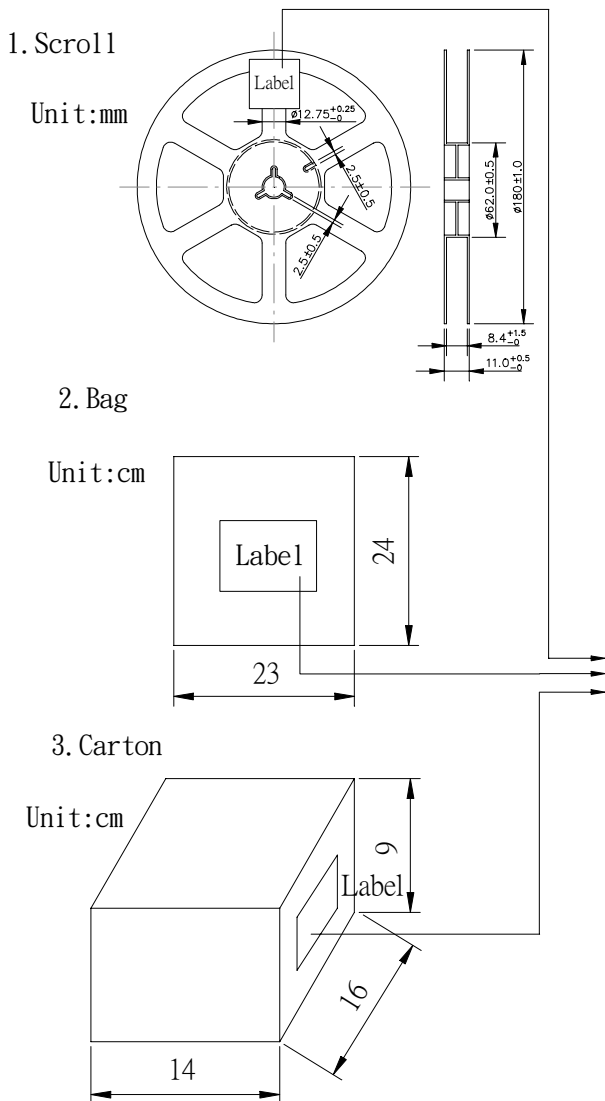


### Top Infrared LED

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MODEL NO : \_\_\_\_\_

### ■ Packing Specifications



CPN:  
P/N:  
  
 HIR67-23C/L11/TR8  
 QTY:                      CAT:  
                      HUE:  
 LOT NO:                      REF:

MADE IN TAIWAN

CPN : Customer's Production Number  
 P/N : Production Number  
 QTY : Packing Quantity  
 CAT : Ranks  
 HUE : Peak Wavelength  
 REF : Reference  
 LOT NO : Lot Number  
 MADE IN TAIWAN : Production place

### ■ Packing Quantity Specification

- 2000Pcs/1 Volume , 1 Volume/1Bag
- 10Bags/1Carton



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