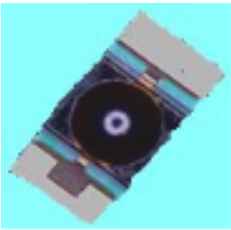


## 1.6mm Round Subminiature Infrared LED HIR26-21B/L423/TR8



### Features

- Compatible with infrared and vapor phase reflow solder process
- Small Double-end package
- Peak wavelength  $\lambda_p=850\text{nm}$
- Package in 12mm tape on 7" diameter reel.
- Pb free
- The product itself will remain within RoHS compliant version
- Compliance with EU REACH
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

### Descriptions

- HIR26-21B/L423/TR8 is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with spherical top view lens.
- The device is spectrally matched with silicon photodiode and phototransistor

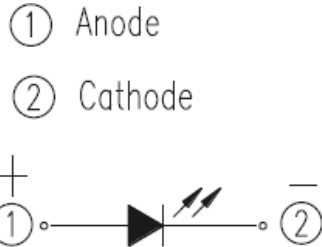
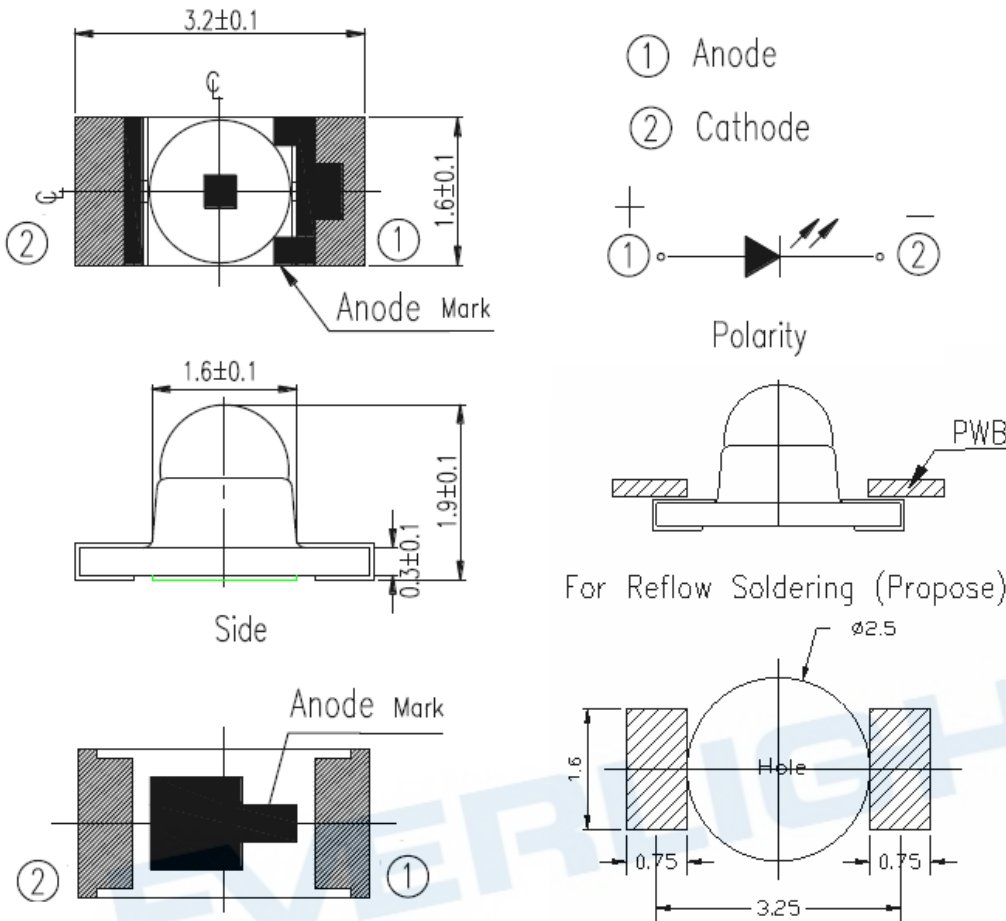
### Applications

- PCB mounted infrared sensor
- Infrared remote control units with high power requirement
- Gas Counter
- Infrared applied system

### Device Selection Guide

Part Category	Chip Material	Lens Color
HIR	GaAlAs	Black

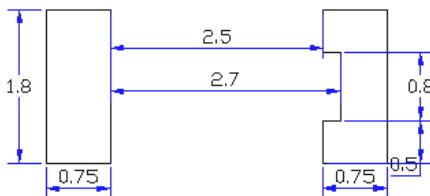
Package Dimensions



Polarity

For Reflow Soldering (Propose)

- Notes:**
1. All dimensions are in millimeters
  2. Tolerances unless dimensions  $\pm 0.1$  mm
  3. To avoid solder ball problem, below is stencil design suggestion (Reference):
    - Solder paste : Sn/Ag3.0/Cu0.5
    - Stencil thickness : 0.10mm
    - Stencil design drawing :



4. Suggested pad dimension is just for reference only  
 Please modify the pad dimension based on individual need

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Continuous Forward Current	$I_F$	50	mA
Peak Forward Current *1	$I_{FP}$	0.5	A
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40~+100	°C
Soldering Temperature *2	$T_{sol}$	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	$P_d$	130	mW

**Notes:** \*1: $I_{FP}$  Conditions--Pulse Width  $\leq 100\mu s$  and Duty  $\leq 1\%$ .

\*2:Soldering time  $\leq 5$  seconds.

### Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	$I_e$	$I_F=20mA$	15	24	--	mW/sr
		$I_F=70mA$ Pulse width $\leq 100\mu s$ , duty $\leq 1\%$	--	75	--	
Peak Wavelength	$\lambda_p$	$I_F=20mA$	--	850	--	nm
Spectral Bandwidth	$\Delta\lambda$	$I_F=20mA$	--	30	--	nm
Forward Voltage	$V_F$	$I_F=20mA$	1.20	1.45	1.70	V
		$I_F=100mA$ Pulse width $\leq 100\mu s$ , duty $\leq 1\%$	1.40	1.60	2.00	
Reverse Current	$I_R$	$V_R=5V$	--	--	10	$\mu A$
View Angle	$2\theta_{1/2}$	$I_F=20mA$	--	20	--	deg

### Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

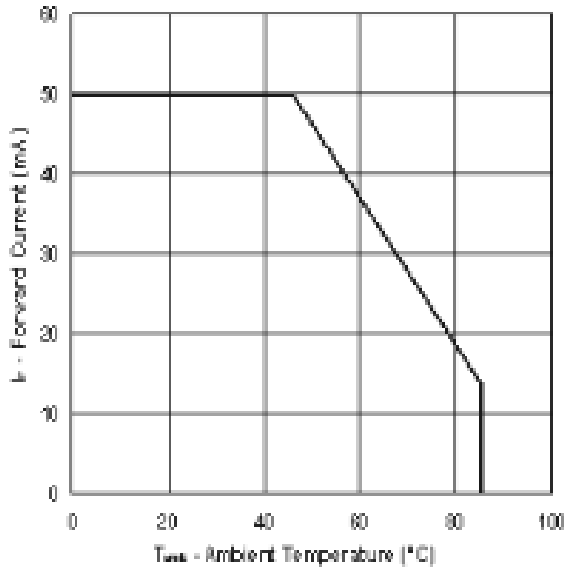


Fig.2 Spectral Distribution

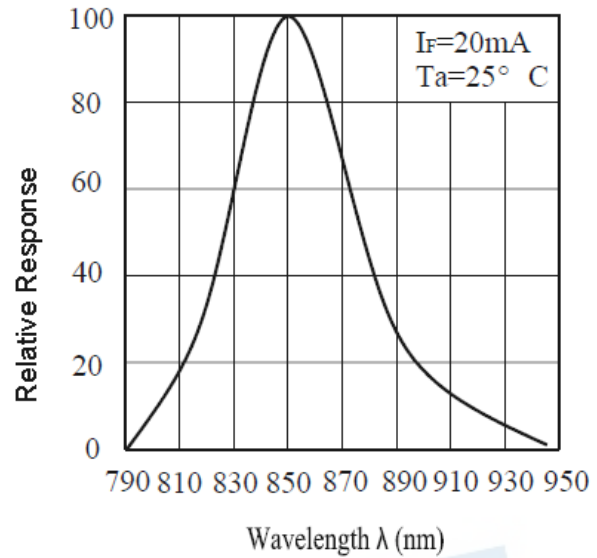


Fig.3 Forward Current vs Forward Voltage

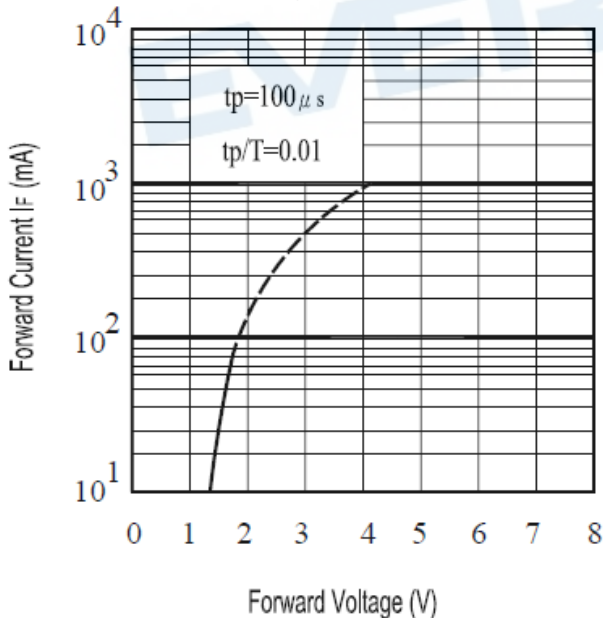
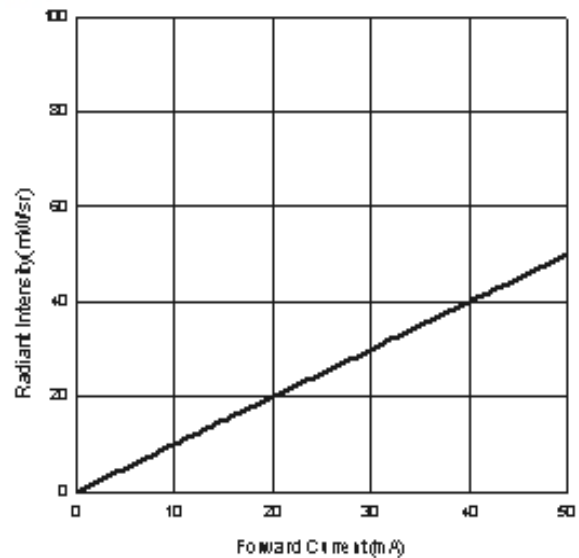
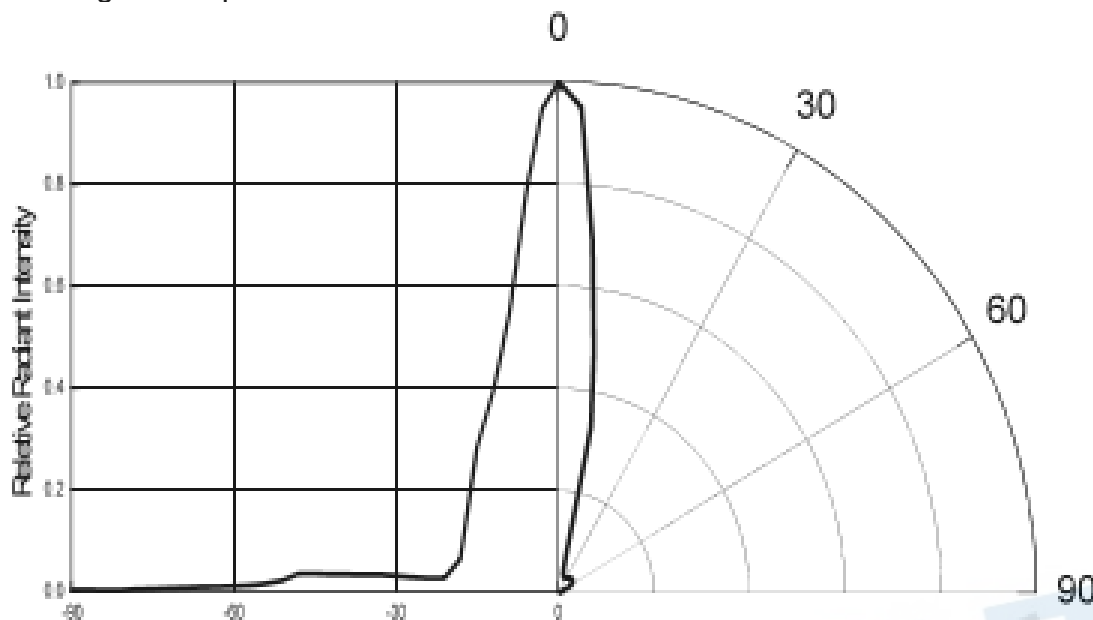


Fig.4 Radiant Intensity vs. Forward Current



## Typical Electro-Optical Characteristics Curves

Fig.5 Relative Radiant Intensity vs.  
Angular Displacement



## Precautions For Use

### 1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

### 2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the LEDs should be kept at 10°C~30°C and 90%RH or less.

2.3 The LEDs suggested be used within one year.

2.4 After opening the package, the devices must be stored at 10°C~30°C and  $\leq 60\%RH$ , and used within 168 hours (floor life). If unused LEDs remain, it should be stored in moisture proof packages.

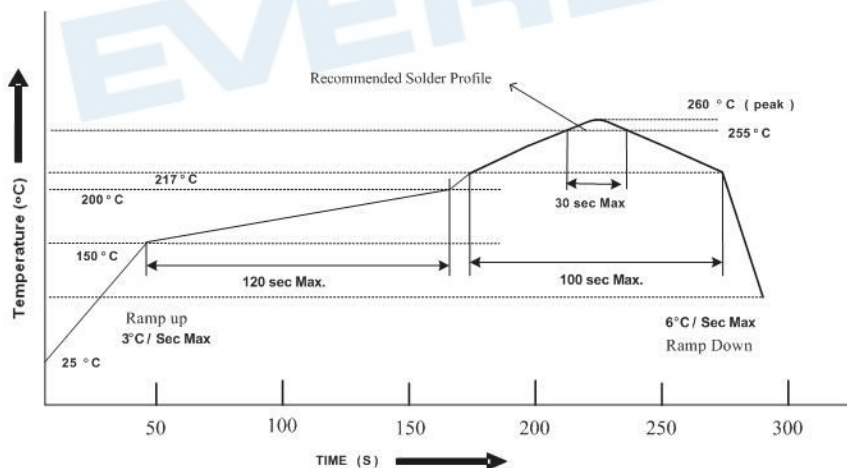
2.5 If the moisture absorbent material (desiccant material) has faded or unopened bag haexceeded the shelf life or devices (out of bag) have exceeded the floor life, baking treatment is required.

2.6 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions:

96 hours at 60°C  $\pm$  5°C and < 5 % RH (reeled/tubed/loose units)

### 3. Soldering Condition

#### 3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

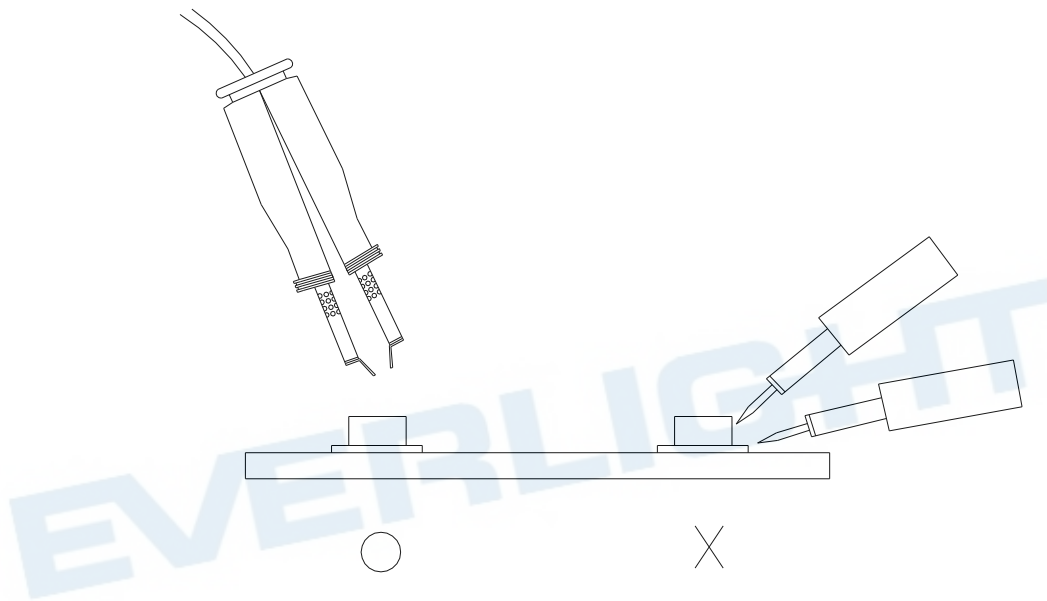
3.4 After soldering, do not warp the circuit board.

### 4. Soldering Iron

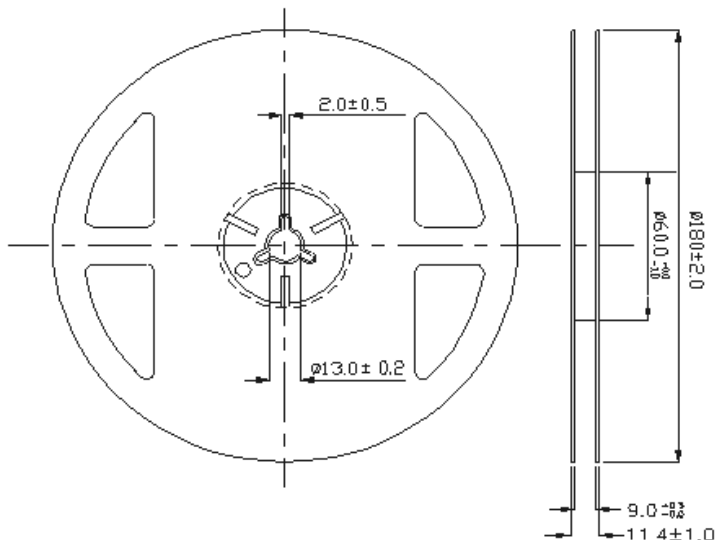
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

#### 5.Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

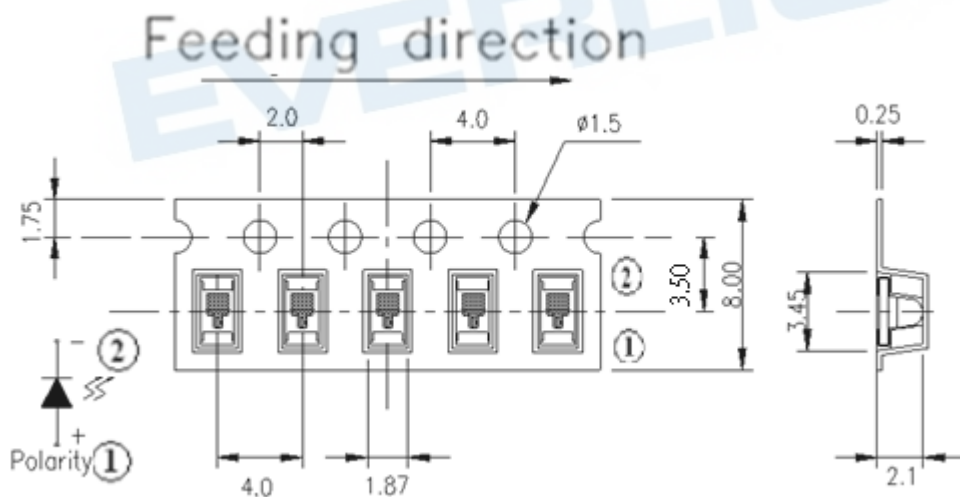


Package Dimensions



**Note:** The tolerances unless mentioned are  $\pm 0.1$ mm, Unit :mm

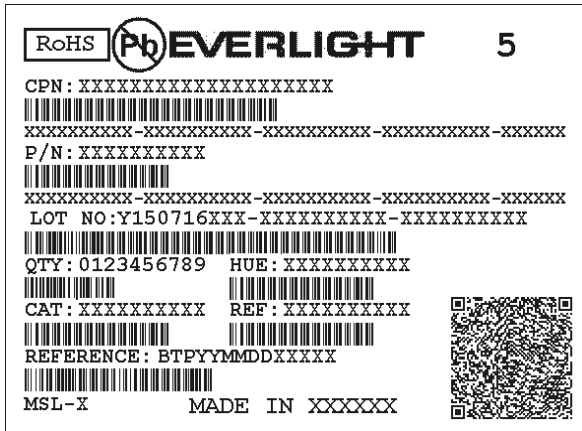
Carrier Tape Dimensions( Loaded Quantity 1500PCS/reel)



**Note:** The tolerances unless mentioned are  $\pm 0.1$ mm, Unit :mm



### Label Form Specification



CPN: Customer's Production Number  
P/N : Production Number  
QTY: Packing Quantity  
CAT: Ranks  
HUE: Peak Wavelength  
REF: Reference  
LOT No: Lot Number  
MSL-X: MSL Level  
Made In: Manufacture place

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2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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