

## Technical Data Sheet

### 3mm Infrared LED , T-1 SIR234



#### Features

- High reliability
- 2.54mm Lead spacing
- Low forward voltage
- Good spectral matching to Si photodetector
- Pb Free
- This product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)

#### Descriptions

- EVERLIGHT'S Infrared Emitting Diode(SIR234) is a high intensity diode , molded in a blue transparent plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

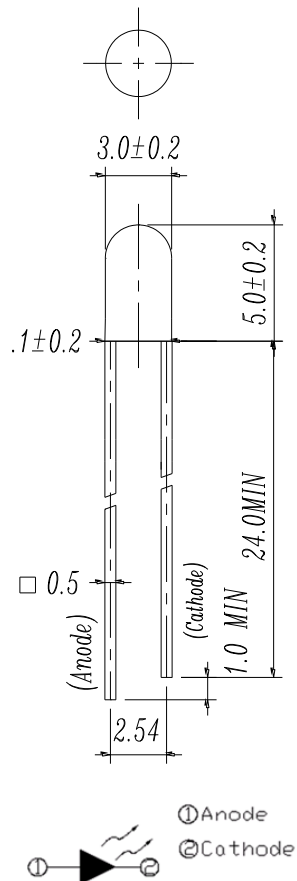
#### Applications

- Free air transmission system
- Optoelectronic switch
- Smoke detector
- Infrared applied system
- Floppy disk drive

**Device Selection Guide**

LED Part No.	Chip	Lens Color
	Material	
SIR234	GaAlAs	Blue

**Package Dimensions**



- Notes:** 1.All dimensions are in millimeters  
 2.Tolerances unless dimensions  $\pm 0.25$ mm

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

Parameter	Symbol	Rating	Units
Continuous Forward Current	I <sub>F</sub>	100	mA
Peak Forward Current(*1)	I <sub>FP</sub>	1.0	A
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85	°C
Soldering Temperature*2)	T <sub>sol</sub>	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	P <sub>d</sub>	150	mW

**Notes:** \*1:I<sub>FP</sub> Conditions--Pulse Width ≤ 100 μs and Duty ≤ 1%.

\*2:Soldering time ≤ 5 seconds.

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	E <sub>e</sub>	I <sub>F</sub> =20mA	5.6	9.3	---	mW/sr
		I <sub>F</sub> =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1%	--	35	--	
		I <sub>F</sub> =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%.	--	350	--	
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	--	875	--	nm
Spectral Bandwidth	Δλ	I <sub>F</sub> =20mA	--	80	--	nm
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA		1.3	1.6	V
		I <sub>F</sub> =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1%	--	1.4	1.8	
		I <sub>F</sub> =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%.	--	2.6	4.0	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA
View Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =20mA	--	30	--	deg

### Rank

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

Unit : mW/sr

Bin number	L	M	N	P
Min	5.6	7.8	11.0	15.0
Max	8.9	12.5	17.6	24.0

Note:

\*Measurement Uncertainty of Forward Voltage:  $\pm 0.1\text{V}$

\*Measurement Uncertainty of Luminous Intensity:  $\pm 10\%$

\*Measurement Uncertainty of Dominant Wavelength  $\pm 1.0\text{nm}$

### Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs.  
Ambient Temperature

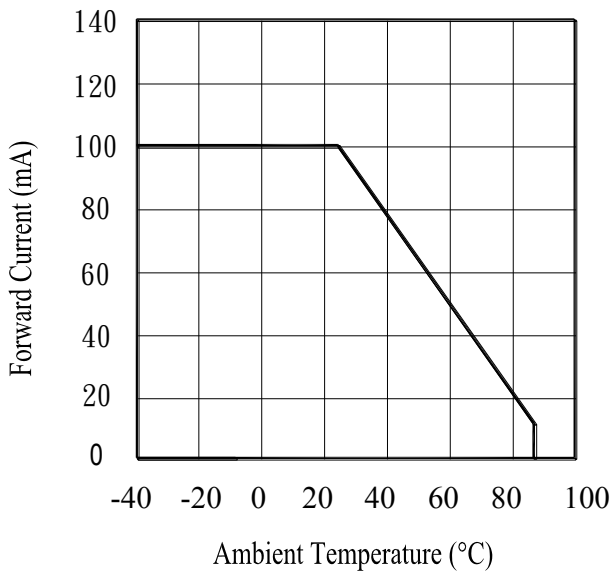


Fig.2 Spectral Distribution

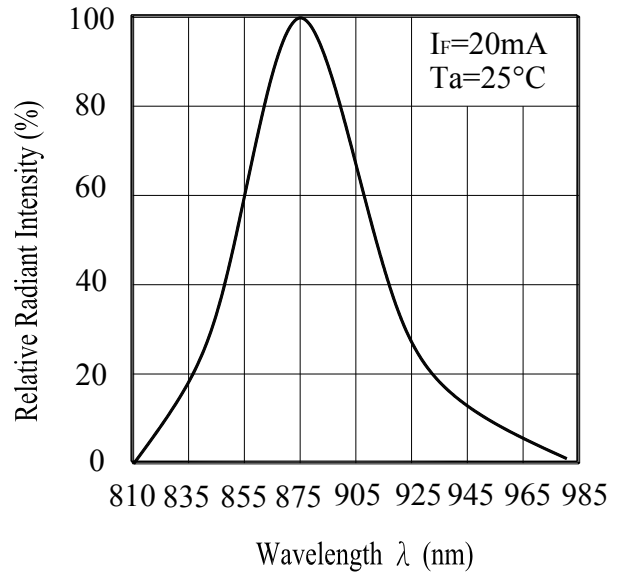


Fig.3 Peak Emission Wavelength  
Ambient Temperature

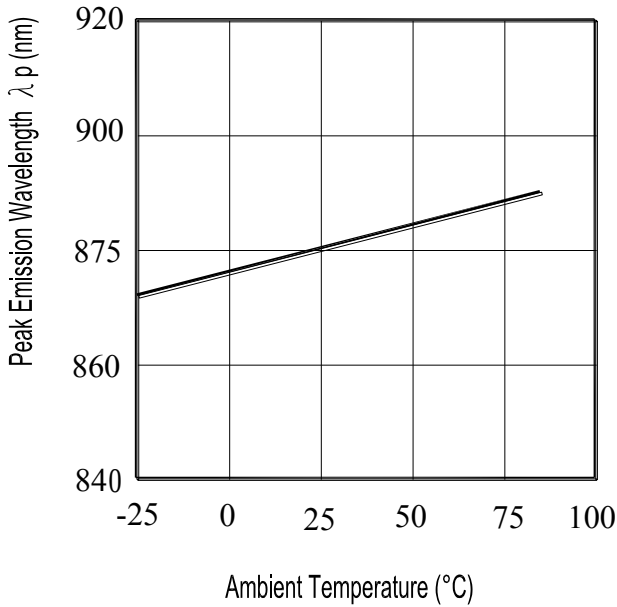
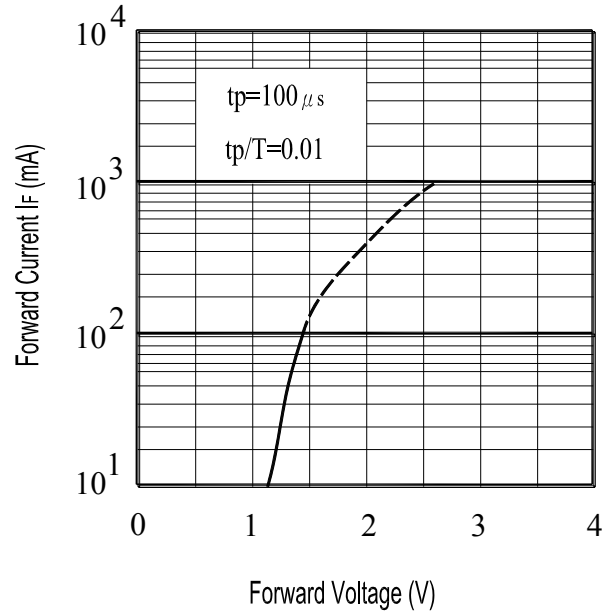


Fig.4 Forward Current  
vs. Forward Voltage



**Typical Electro-Optical Characteristics Curves**

Fig.5 Relative Intensity vs.  
Forward Current

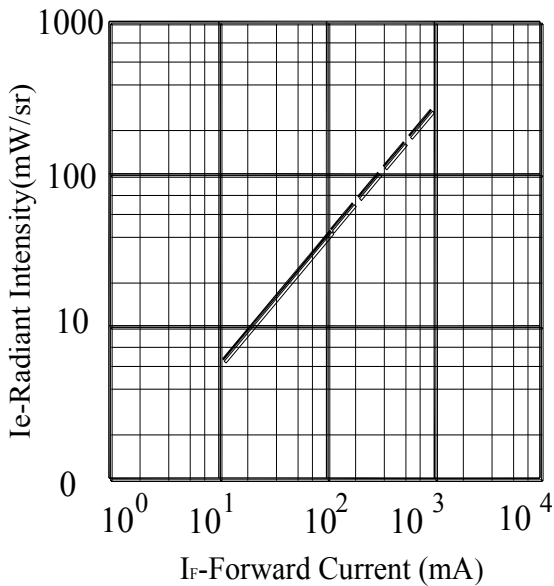


Fig.6 Relative Radiant Intensity vs.  
Angular Displacement

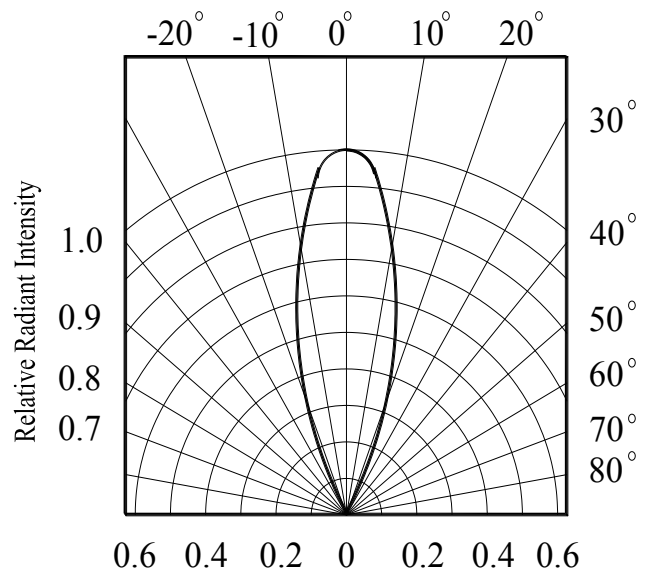


Fig.7 Relative Intensity vs.  
Ambient Temperature(°C)

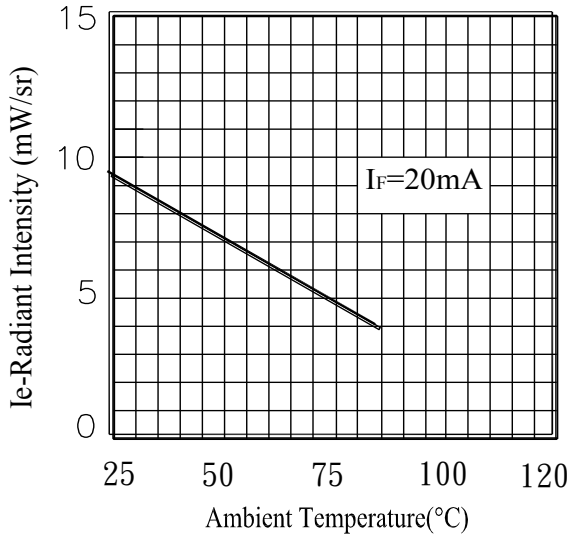
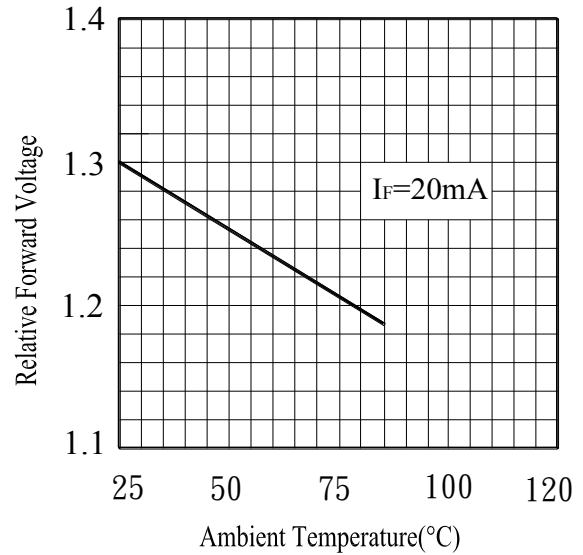


Fig.8 Forward Current vs.  
Ambient Temperature(°C)

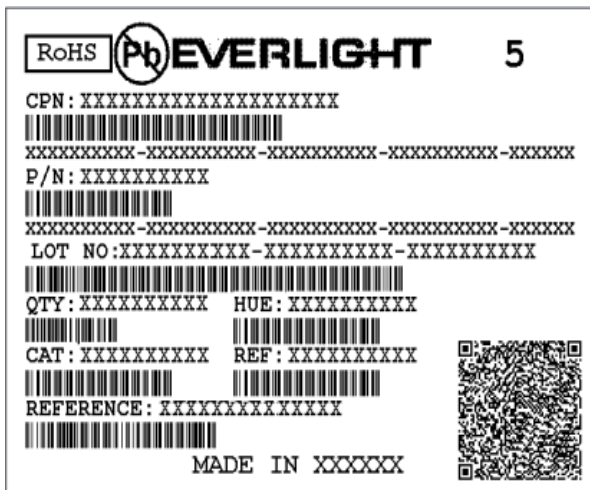


### Packing Quantity Specification

1.200~1000PCS/1Bag , 5Bags/1Box

2.10Boxes/1Carton

### 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

## **DISCLAIMER**

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
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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