

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(SIR204C) is a high intensity diode , molded in a water clear transparent plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

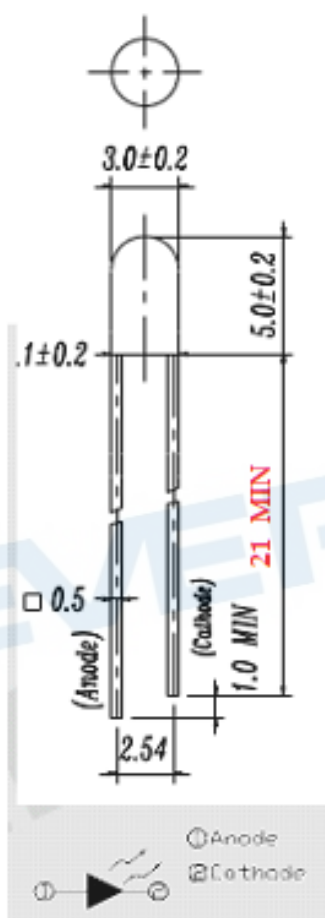
Applications

- 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 $\pm 0.25\text{mm}$

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I _F	100	mA
Peak Forward Current(*1)	I _{FP}	1.0	A
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
Soldering Temperature*2)	T _{sol}	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	P _d	150	mW

Notes: *1:I_{FP} Conditions--Pulse Width ≤ 100μs and Duty ≤ 1%.

*2:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	I _e	I _F =20mA	5.6	9.3	--	mW/sr
		I _F =100mA Pulse Width ≤ 100μs ,Duty ≤ 1%	--	35	--	
		I _F =1A Pulse Width ≤ 100μs ,Duty ≤ 1%.	--	350	--	
Peak Wavelength	λ _p	I _F =20mA	--	875	--	nm
Spectral Bandwidth	Δλ	I _F =20mA	--	80	--	nm
Forward Voltage	V _F	I _F =20mA	--	1.3	1.6	V
		I _F =100mA Pulse Width ≤ 100μs ,Duty ≤ 1%	--	1.4	1.8	
		I _F =1A Pulse Width ≤ 100μs ,Duty ≤ 1%.	--	2.6	4.0	
Reverse Current	I _R	V _R =5V	--	--	10	μA
View Angle	2θ1/2	I _F =20mA	--	30	--	deg

Note:

*Measurement Uncertainty of Forward Voltage: ±0.1V

*Measurement Uncertainty of Luminous Intensity: ±10%

*Measurement Uncertainty of Dominant Wavelength ±1.0nm

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.

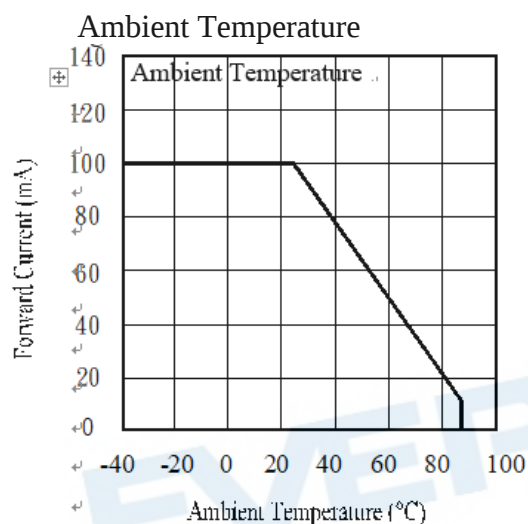


Fig.2 Spectral Distribution

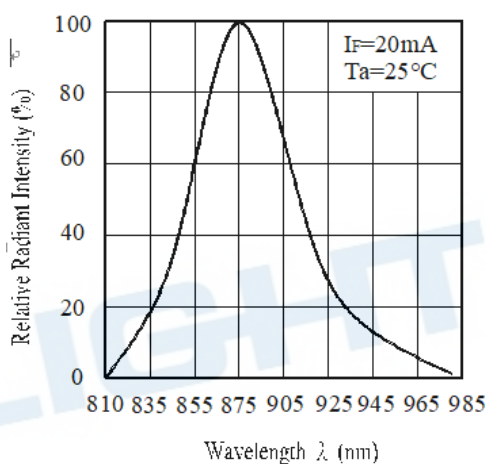


Fig.3 Peak Emission Wavelength vs

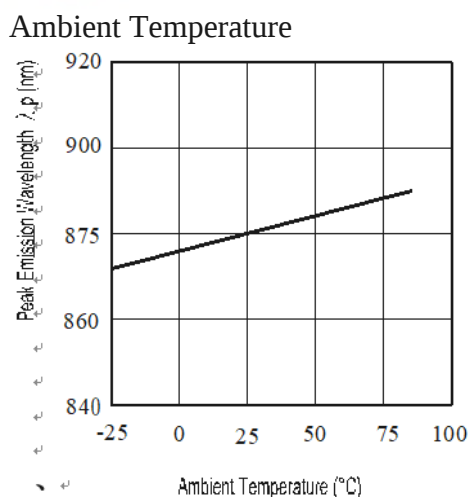


Fig.4 Forward Current vs.

Forward Voltage

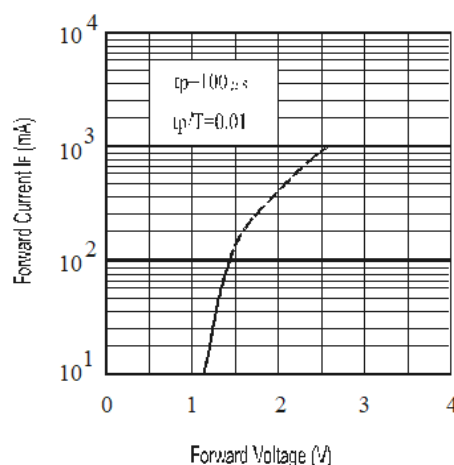


Fig.5 Relative Intensity vs.
Forward Current

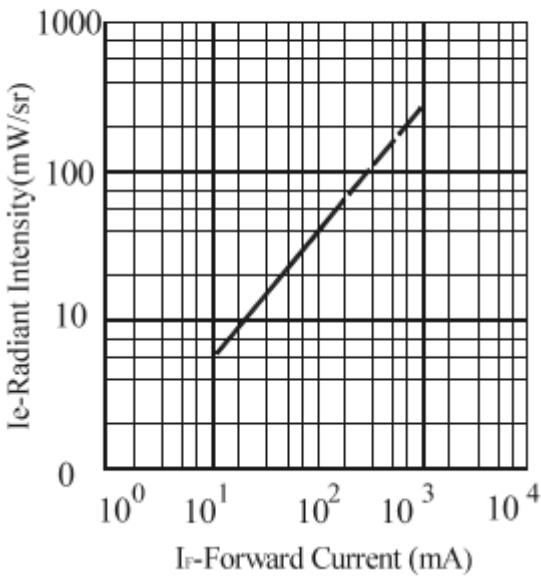


Fig.6 Relative Radiant Intensity vs.
Angular Displacement

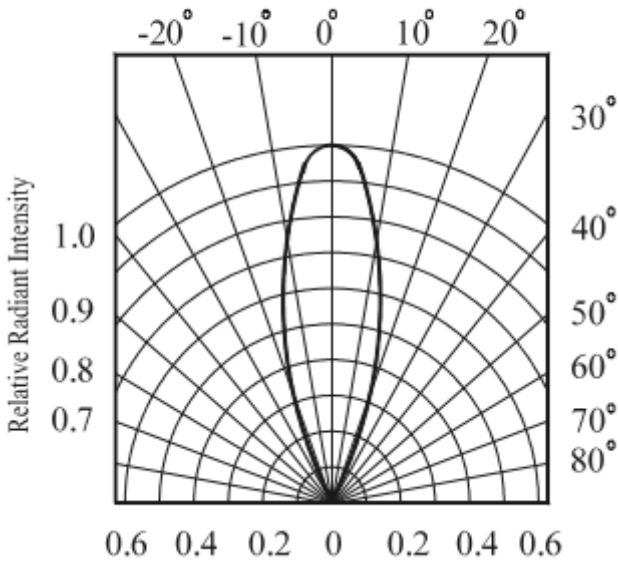


Fig.7 Relative Intensity vs.
Ambient Temperature(°C)

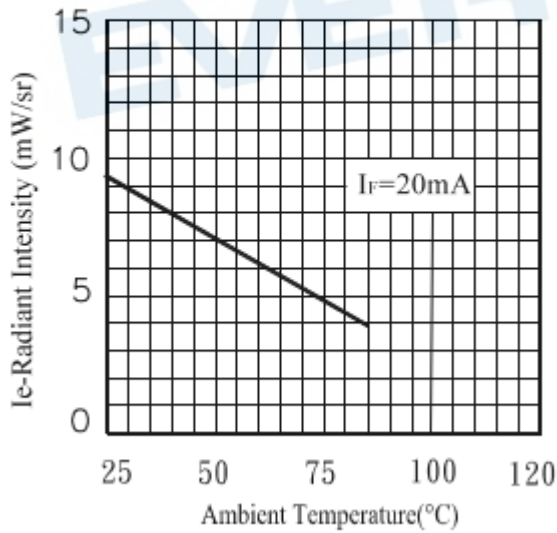
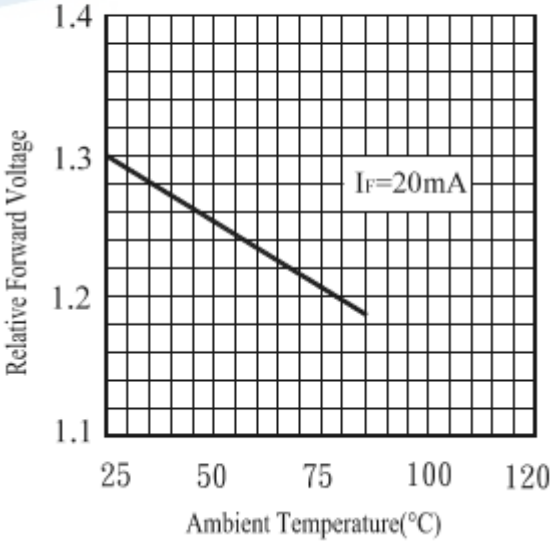


Fig.8 Forward Current vs.
Ambient Temperature(°C)

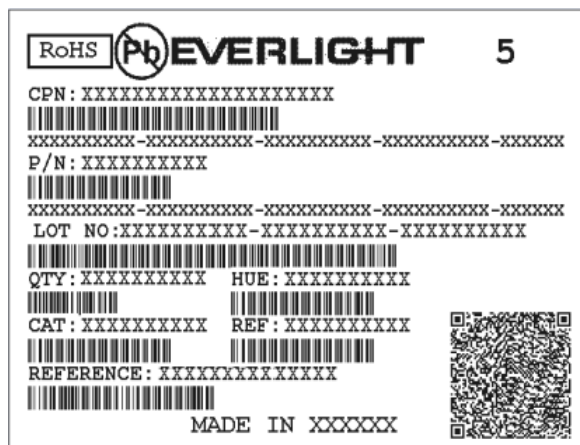


Packing Quantity Specification

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

X: Month

Reference: Identify Label 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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