SUNRISE LED

TECHNOLOGY DATA SHEET & SPECIFICATIONS

MODEL： 5010IRC940-H

Features

- High reliability
- High radiant intensity
- Peak wavelength λp=940nm
- 2.54mm Lead spacing
- Low forward voltage
- Pb free

Descriptions

- HYLED Infrared Emitting Diode is a high intensity diode, molded in transparent plastic package
- The device is spectrally matched with phototransistor, photodiode and infrared receiver module

Usage Notes:

- Surge will damage the LED
- When using LED, it must use a protective resistor in series with DC current about 20mA

Applications

- Free air transmission system
- Infrared remote control units with high power requirement
- Smoke detector
- Infrared applied system

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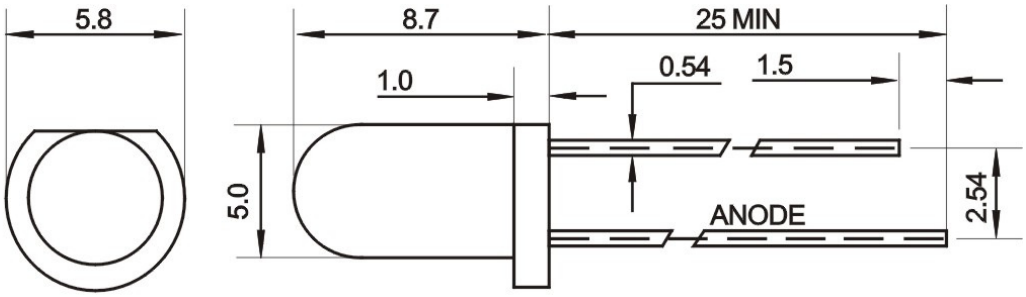
Device Selection Guide

LED Part No.	Chip		Lens Color
	Material	Emitted Color	
5010IRC940-H	AlGaAs	Infrared	Water clear

Package Dimensions



UNIT:mm

Notes:

˙Other dimensions are in millimeters, tolerance is 0.25mm except being specified.

˙Protruded resin under flange is 1.5mm Max LED.

˙Bare copper alloy is exposed at tie-bar portion after cutting.

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Absolute Maximum Rating (T_a=25□)

Parameter	Symbol	Absolute Maximum Rating	Unit
Forward Pulse Current	I_{FPM}	100	mA
Forward Current	I_{FM}	30	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	140	mW
Operating Temperature	Topr	-40~ +80	□
Storage Temperature	Tstg	-40~ +100	□
Soldering Heat (5s)	Tsol	260	□

Electro-Optical Characteristics (T_a=25□)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Radiant intensity	Ee	---	12	---	mW/Sr	IF=20mA(Note1)
Viewing Angle	$2\theta_{1/2}$	20	---	30	Deg	(Note 2)
Peak Emission Wavelength	λp	---	940	---	nm	IF=20mA
Spectral Line Half-Width	□λ	15	20	25	nm	IF=20mA
Forward Voltage	V_F	1.2	---	1.5	V	IF=20mA
Reverse Current	I_R	---	---	10	μA	VR=5V

Note:

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

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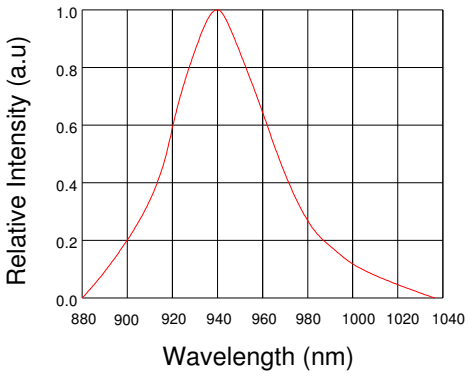
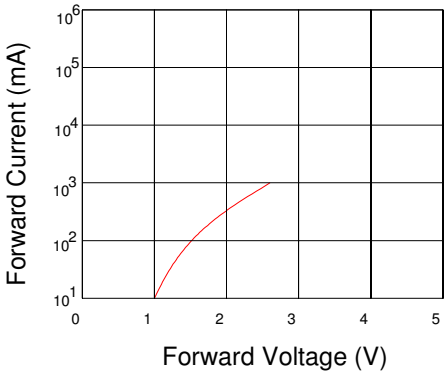
Typical Electro-Optical Characteristics Curves

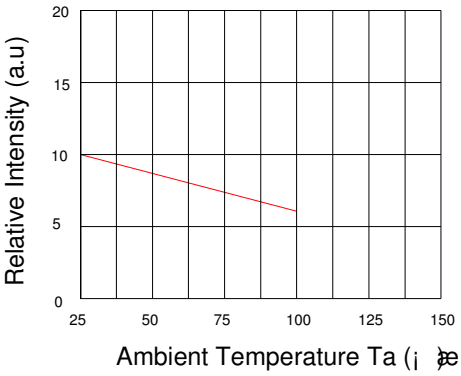
Relative Intensity VS. Wavelength



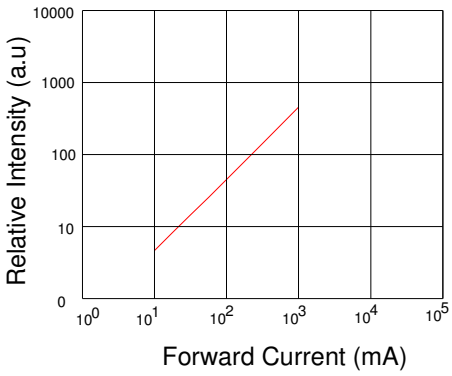
Forward Current VS.Forward Voltage



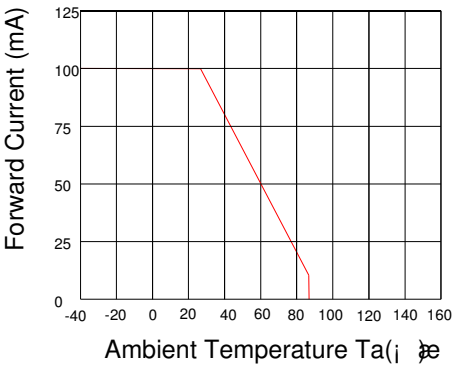
Relative Intensity VS. Ambient Temp



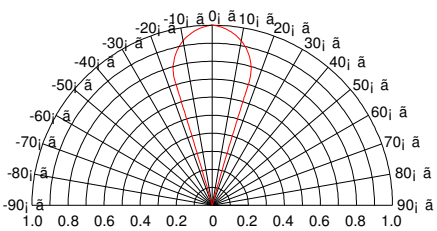
Forward Current VS.Relative Intensity



Forward Current VS.Ambient Temp.



Radiation Characteristics



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Notes

1. Above specification may be changed without notice. SUNRISE LED will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. SUNRISE LED assumes no responsibility for any damage resulting from 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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