

### Technical Data Sheet

### 3mm Infrared LED, T-1

### HIR204C/H0



#### Features

- High reliability
- 2.54mm lead spacing
- Low forward voltage
- Good spectral matching to Si photodetector
- High radiant intensity
- Pb free
- The product itself will remain within RoHS compliant version.

## Description

EVERLIGHT's infrared emitting (HIR204C/H0)

is a high intensity diode, molded in a water clear plastic package.

The device is spectrally matched with phototransistor, photodiode and infrared receive module.

## Applications

- Infrared applied system

## Device Selection Guide

LED Part No.	Chip Material	Lens Color
HIR204C/H0	GaAlAs	Water clear

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	100	mA
Peak Forward Current	$I_{FP}$	1.0	A
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-40~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Soldering Temperature	$T_{sol}$	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	$P_d$	150	mW

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

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	IE	11	-	48	mW/sr	$I_F=20mA$
Peak Wavelength	$\lambda_p$	-	850	-	nm	$I_F=20mA$
Spectral Bandwidth	$\Delta\lambda$	-	45	-	nm	$I_F=20mA$
Forward Voltage	$V_F$	-	1.45	1.65	V	$I_F=20mA$
		-	1.8	2.4		$I_F=100mA$
Reverse Current	$I_R$	-	-	10	$\mu A$	$V_R=5V$
View angle	$2\theta_{1/2}$	-	40	-	degree	$I_F=20mA$

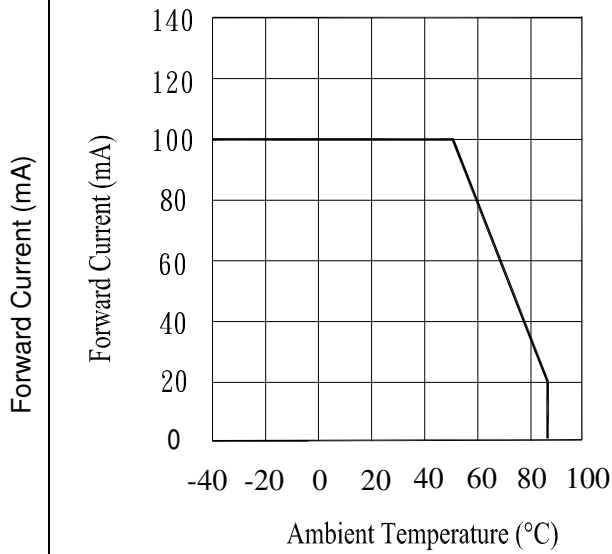
### Rank

Condition :  $I_F=20mA$

Unit : mW/sr

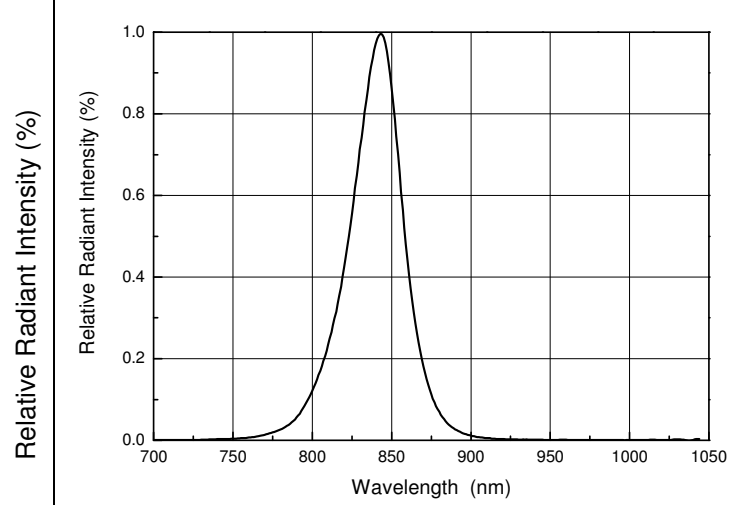
Bin Number	N	P	Q	R
Min	11.0	15.0	21.0	30.0
Max	17.6	24.0	34.0	48.0

Fig.1 Forward Current vs. Ambient Temperature



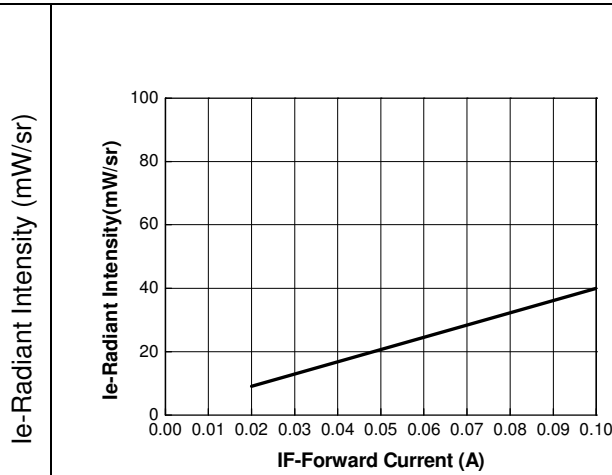
Ambient Temperature(°C)

Fig.2 Spectral Distribution



Wavelength  $\lambda$  (nm)

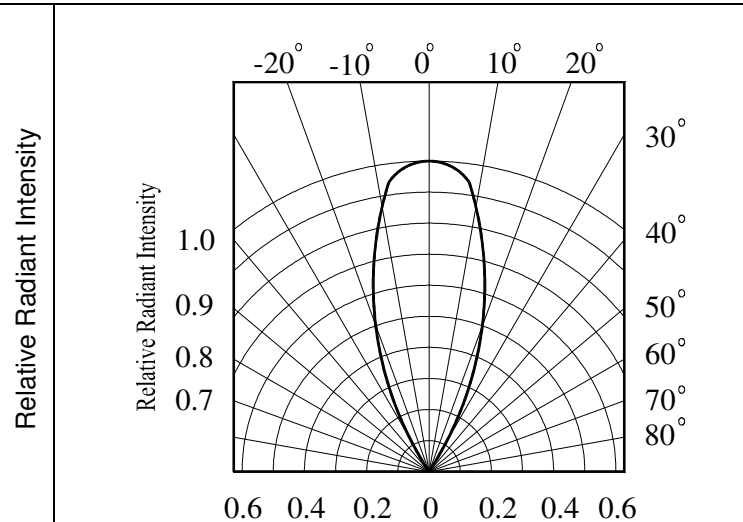
Fig.3 Radiant Intensity vs. Forward Current



Ie-Radiant Intensity (mW/sr)

IF-Forward Current (A)

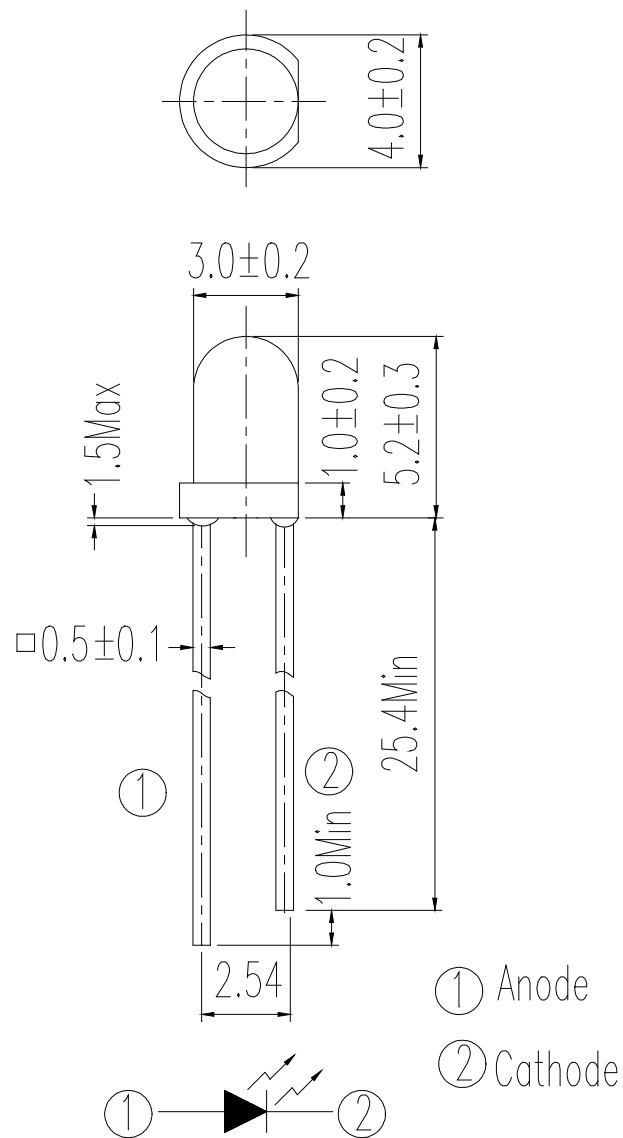
Fig.4 Relative Radiant Intensity vs. Angular Displacement



Relative Radiant Intensity

0.6 0.4 0.2 0 0.2 0.4 0.6

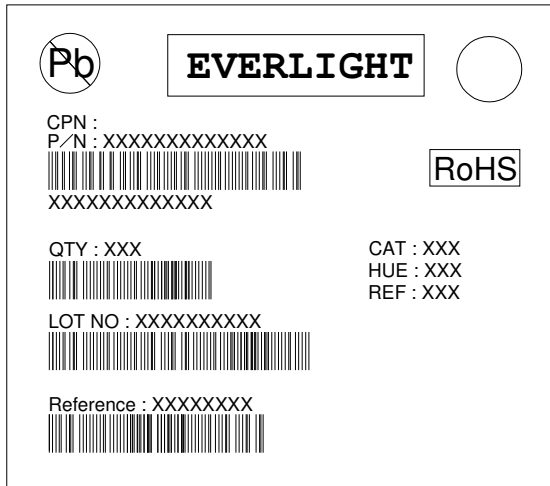
## Package Dimension



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

## Moisture Resistant Packing Materials

### 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

MADE IN TAIWAN: Production Place

## Notes

1. Above specification may be changed without notice. EVERLIGHT 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. EVERLIGHT 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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