

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 ≤ 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	λ_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	μA	$V_R=5V$
View angle	$2\theta_{1/2}$	-	40	-	degree	$I_F=20mA$

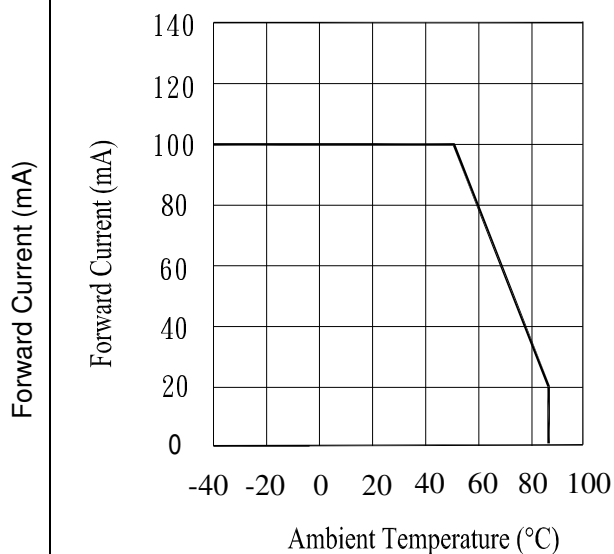
Rank

Condition : $I_F=20mA$

Unit : mW/sr

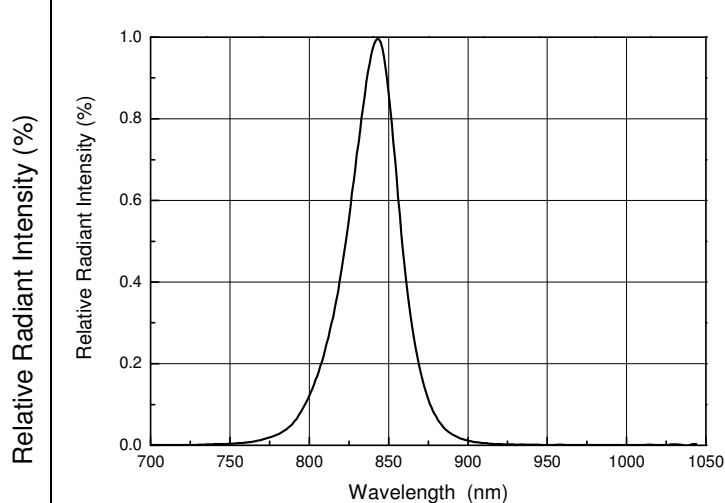
Bin Number	N	P	Q	R
Min	11.0	15.0	21.0	30.0
Max	17.6	24.0	34.0	48.0

Fig.1 Forward Current vs. Ambient Temperature



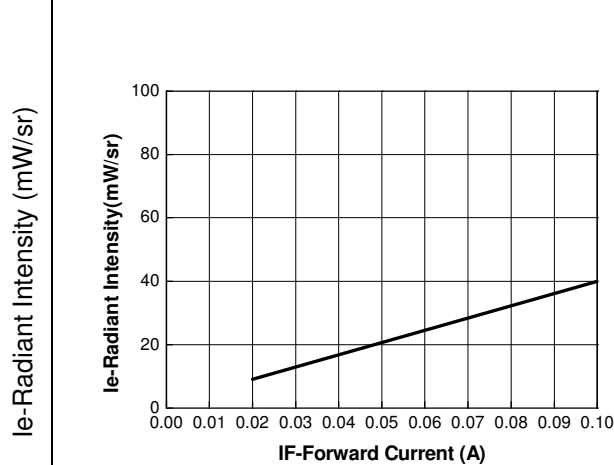
Ambient Temperature(°C)

Fig.2 Spectral Distribution



Wavelength λ (nm)

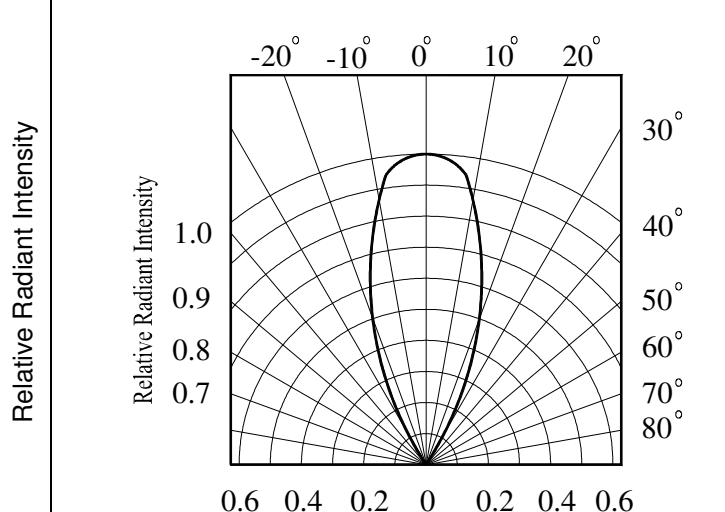
Fig.3 Radiant Intensity vs. Forward Current



Ie-Radiant Intensity (mW/sr)

IF-Forward Current (A)

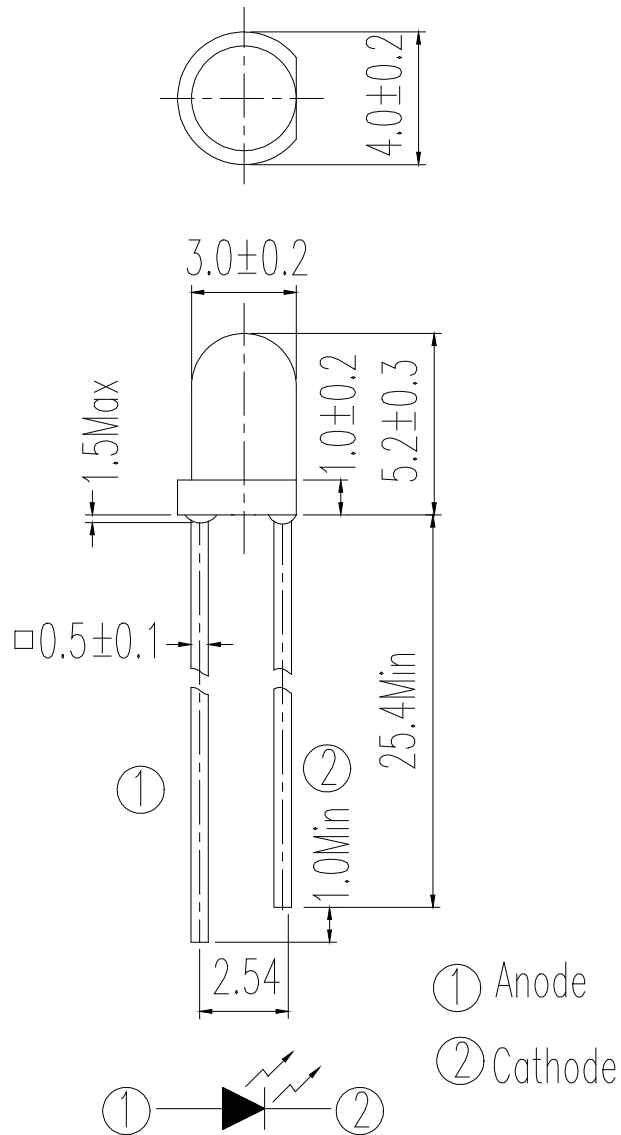
Fig.4 Relative Radiant Intensity vs. Angular Displacement



Relative Radiant Intensity

0.6 0.4 0.2 0 0.2 0.4 0.6

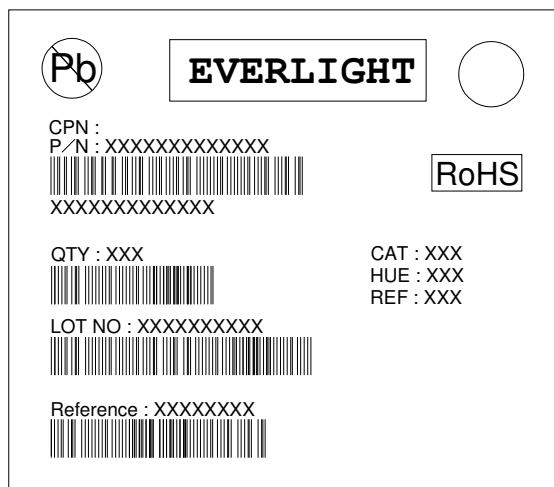
Package Dimension



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

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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