



Technical Data Sheet

3mm Infrared LED , T-1

HIR234C

Features

- High reliability
- High radiant intensity
- Peak wavelength $\lambda_p=850\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage
- This product itself will remain within RoHS compliant version



Descriptions

- EVERLIGHT's Infrared Emitting Diode (HIR234C) is a high intensity diode , molded in a Water clear plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

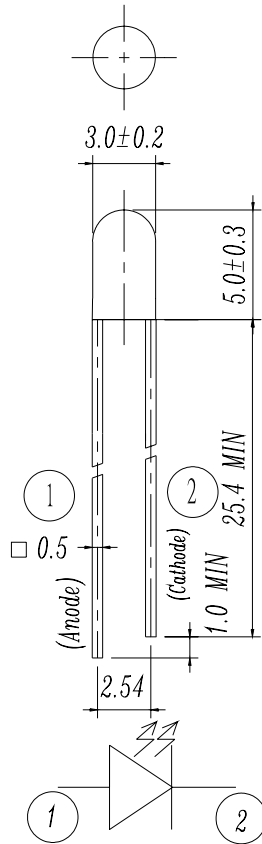
Applications

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

Device Selection Guide

| LED Part No. | Chip | Lens Color |
|--------------|----------|-------------|
| | Material | |
| HIR234C | GaAlAs | Water clear |

Package Dimensions



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

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Units |
|---|------------------|-----------|-------|
| 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 ~ +85 | °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 ≤ 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 | Ee | I _F =20mA | 7.8 | 15 | -- | mW/sr |
| | | I _F =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1% | -- | 50 | -- | |
| | | I _F =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%. | -- | 300 | -- | |
| Peak Wavelength | λ _p | I _F =20mA | -- | 850 | -- | nm |
| Spectral Bandwidth | Δλ | I _F =20mA | -- | 45 | -- | nm |
| Forward Voltage | V _F | I _F =20mA | | 1.45 | 1.65 | V |
| | | I _F =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1% | -- | 1.80 | 2.40 | |
| | | I _F =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%. | -- | 4.10 | 5.25 | |
| Reverse Current | I _R | V _R =5V | -- | -- | 10 | μA |
| View Angle | 2θ 1/2 | I _F =20mA | -- | 30 | -- | deg |

Rank

 Condition : I_F=20mA

Unit : mW/sr

| Bin Number | M | N | P | Q |
|------------|------|------|------|------|
| Min | 7.8 | 11.0 | 15.0 | 21.0 |
| Max | 12.5 | 17.6 | 24.0 | 34.0 |

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

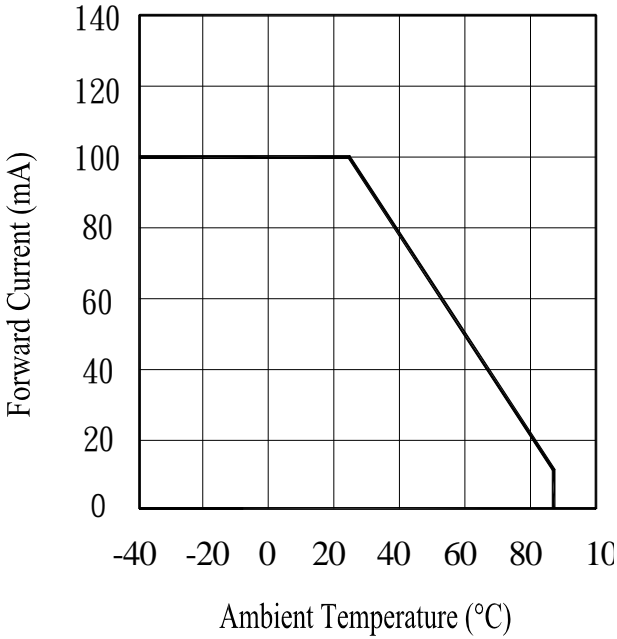


Fig.2 Spectral Distribution

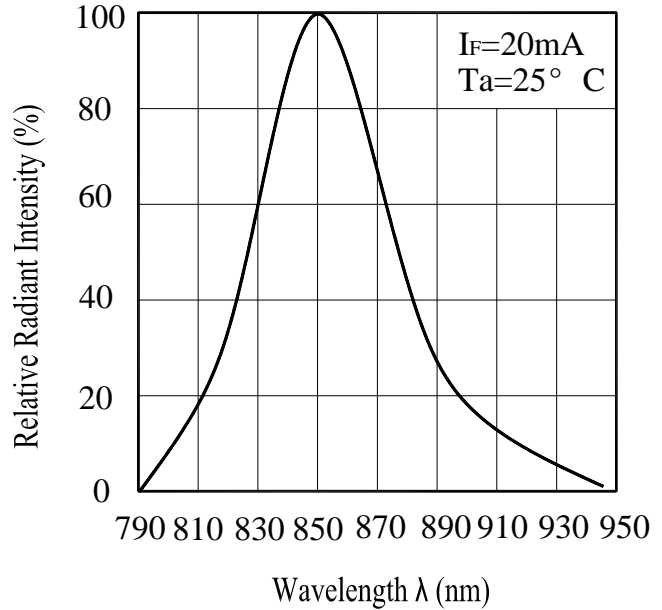


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

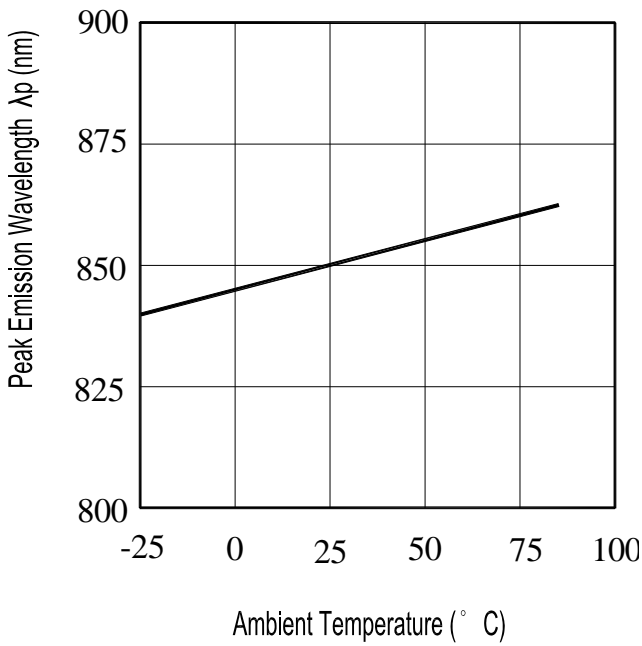
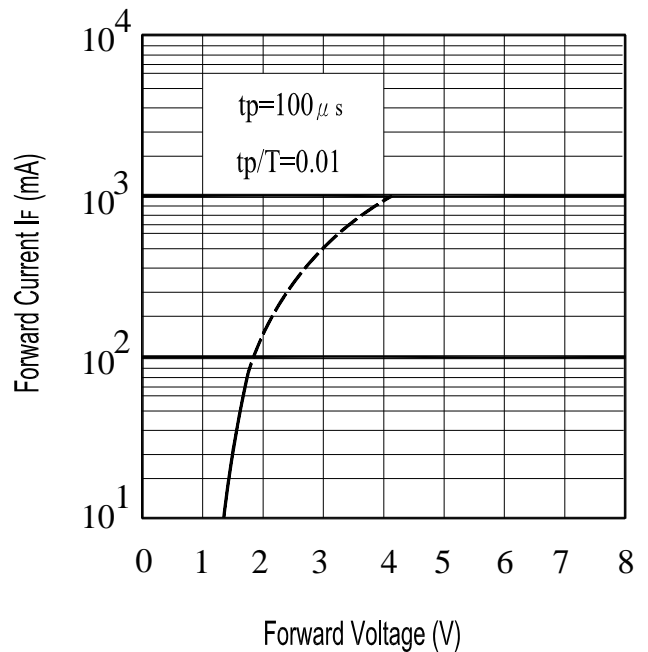


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.

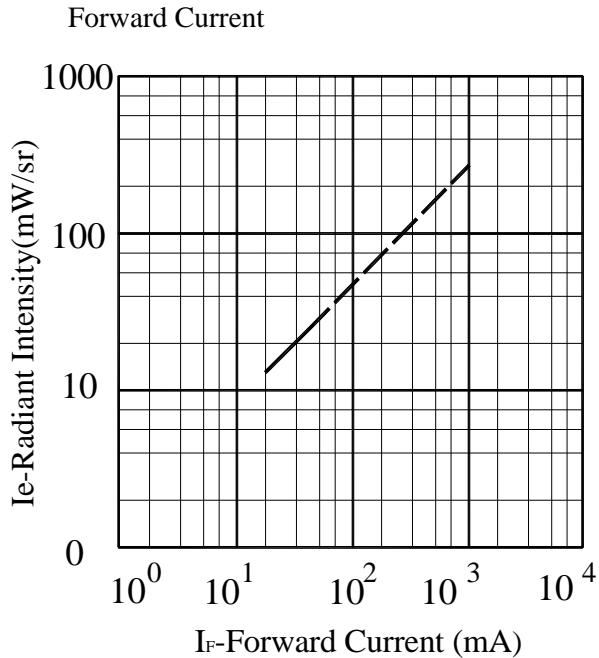


Fig.6 Relative Radiant Intensity vs.

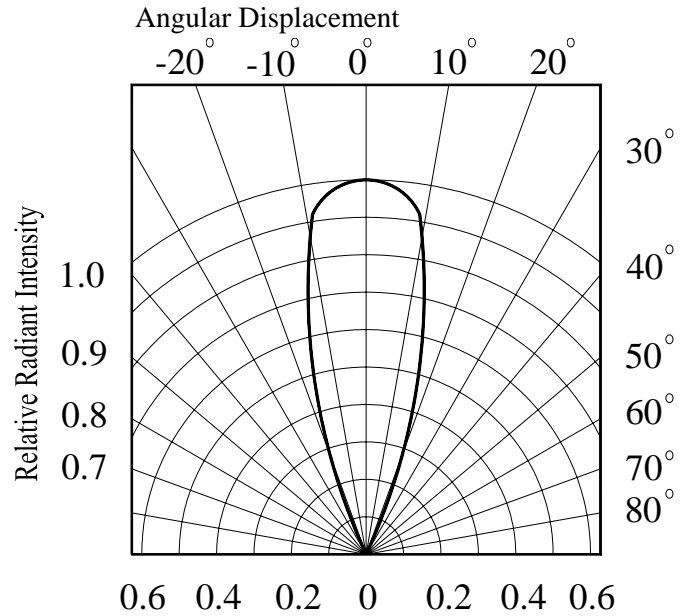


Fig.7 Relative Intensity vs.

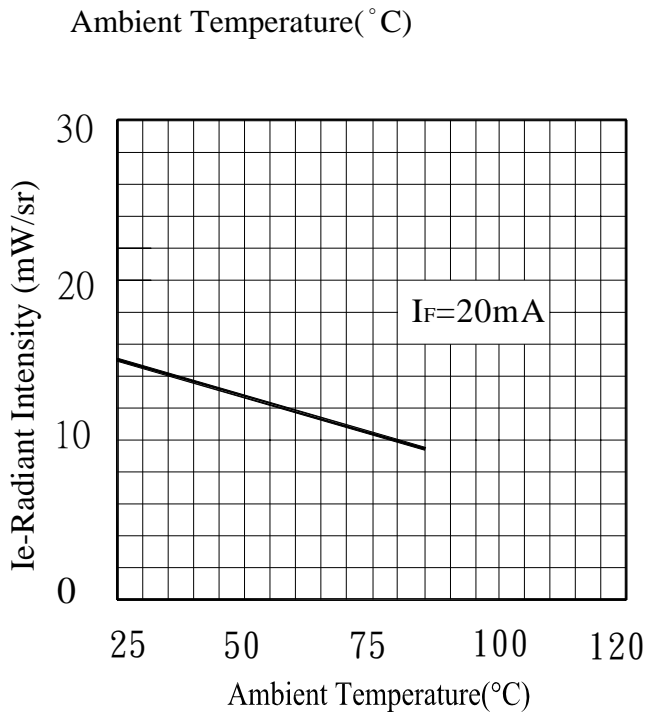
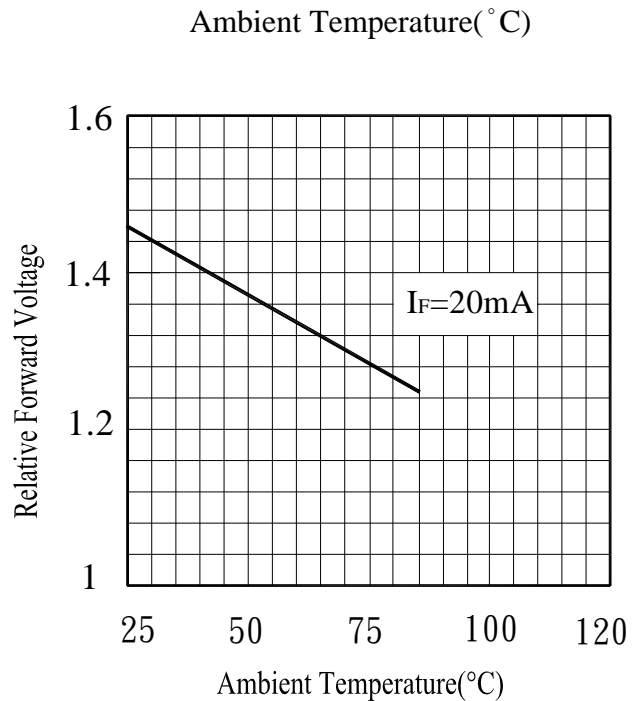


Fig.8 Forward Voltage vs.



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

| NO. | Item | Test Conditions | Test Hours/ Cycles | Sample Sizes | Failure Judgement Criteria | Ac/Re |
|-----|------------------------------------|--|-----------------------|-----------------|---|-------|
| 1 | Solder Heat | TEMP. : $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ | 10secs | 22pcs | $E_e \leq L \times 0.8$ $V_F \leq U$ U : Upper Specification Limit L : the initial test value | 0/1 |
| 2 | Temperature Cycle | H : 100°C 15mins ↑↓ 5mins L : -40°C 15mins | 300Cycles | 22pcs | | 0/1 |
| 3 | Thermal Shock | H : $+100^{\circ}\text{C}$ 5mins ↑↓ 10secs L : -10°C 5mins | 300Cycles | 22pcs | | 0/1 |
| 4 | High Temperature Storage | TEMP. : $+100^{\circ}\text{C}$ | 1000hrs | 22pcs | | 0/1 |
| 5 | Low Temperature Storage | TEMP. : -40°C | 1000hrs | 22pcs | | 0/1 |
| 6 | DC Operating Life | $I_F = 20\text{mA}$ | 1000hrs | 22pcs | | 0/1 |
| 7 | High Temperature/ High Humidity | 85°C / 85% R.H | 1000hrs | 22pcs | | 0/1 |



HIR234C

Packing Quantity Specification

1. 1000PCS/1Bag,4Bag/1Box
2. 10Boxes/1Carton

Label Form Specification

EVERLIGHT

CPN:

P/N:



HIR234C

QTY:



LOT NO:

CAT:

HUE:

REF:

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

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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EVERLIGHT ELECTRONICS CO., LTD.

Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936

Fax: 886-2267-6244, 2267-6189, 2267-6306

<http://www.everlight.com>

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<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9