



Technical Data Sheet

3mm Infrared LED , T-1

SIR204-A

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.



Descriptions

- EVERLIGHT'S Infrared Emitting Diode(SIR204-A) is a high intensity diode , molded in a blue transparent plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

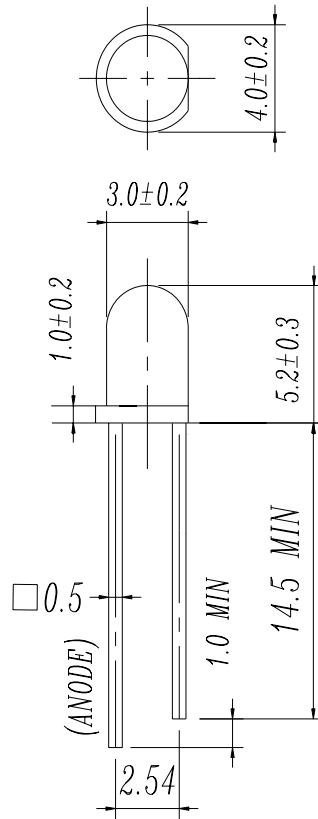
Applications

- Free air transmission system
- Optoelectronic switch
- Smoke detector
- Infrared applied system
- Floppy disk drive

Device Selection Guide

| LED Part No. | Chip | Lens Color |
|--------------|----------|------------|
| | Material | |
| SIR204-A | GaAlAs | Blue |

Package Dimensions



- Notes:** 1.All dimensions are in millimeters
 2.Tolerances unless dimensions ± 0.25 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 ~ +100 | °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 $\leq 100 \mu s$ and Duty $\leq 1\%$.
 *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 | 4.0 | 6.4 | -- | mW/sr |
| | | I _F =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1% | -- | 30 | -- | |
| | | I _F =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%. | -- | 300 | -- | |
| 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 ≤ 100 μs ,Duty ≤ 1% | -- | 1.4 | 1.8 | |
| | | I _F =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%. | -- | 2.6 | 4.0 | |
| 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 | K | L | M | N |
|------------|-----|-----|------|------|
| Min | 4.0 | 5.6 | 7.8 | 11.0 |
| Max | 6.4 | 8.9 | 12.5 | 17.6 |

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

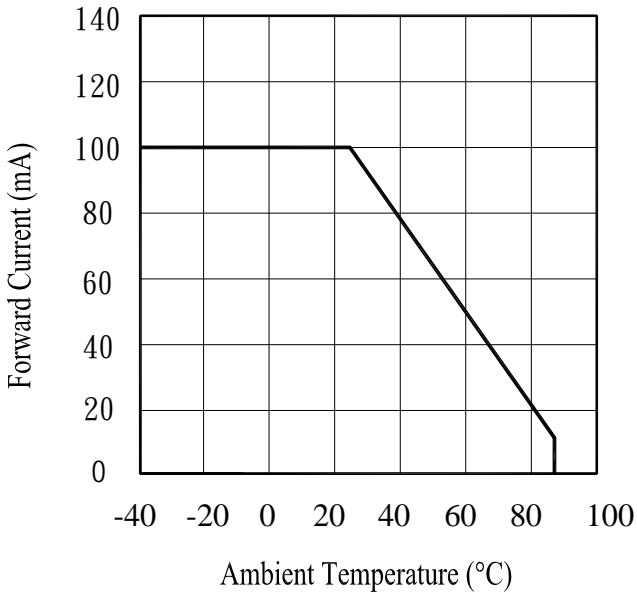


Fig.2 Spectral Distribution

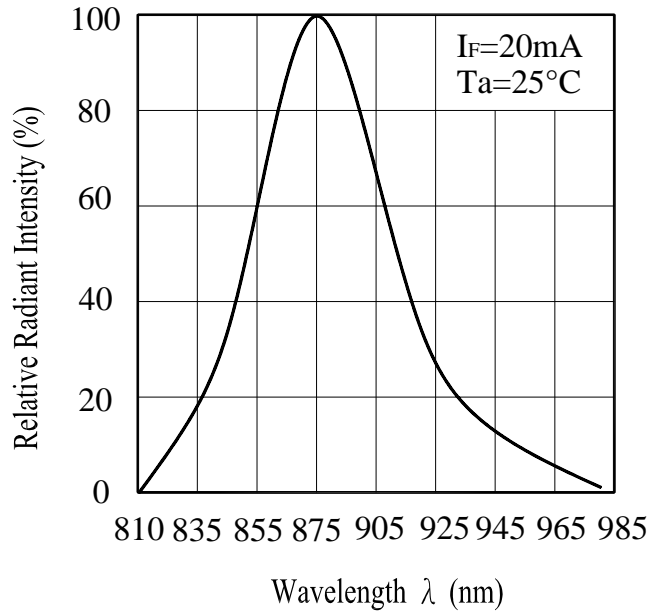


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

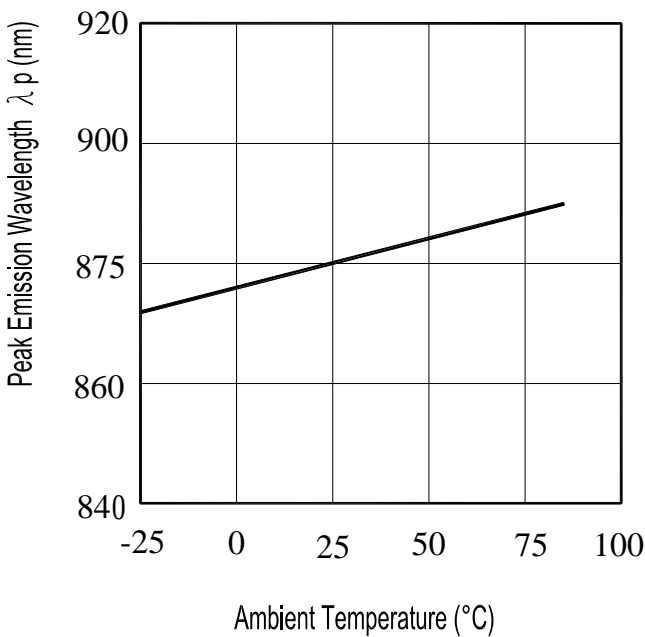
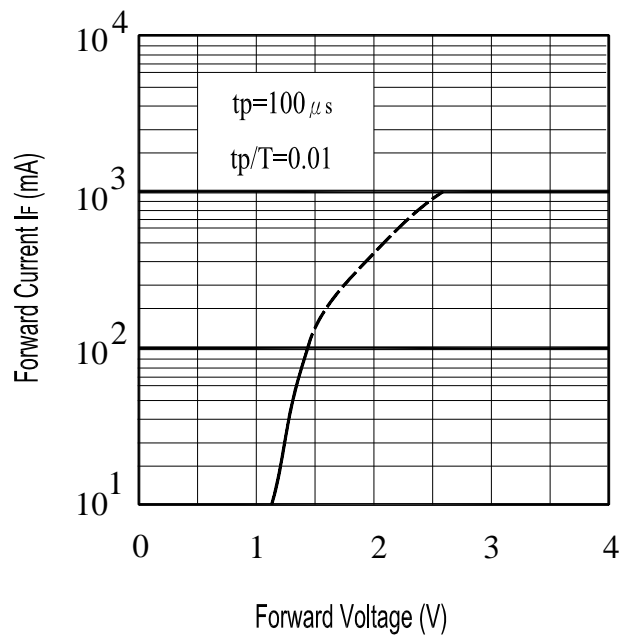


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.

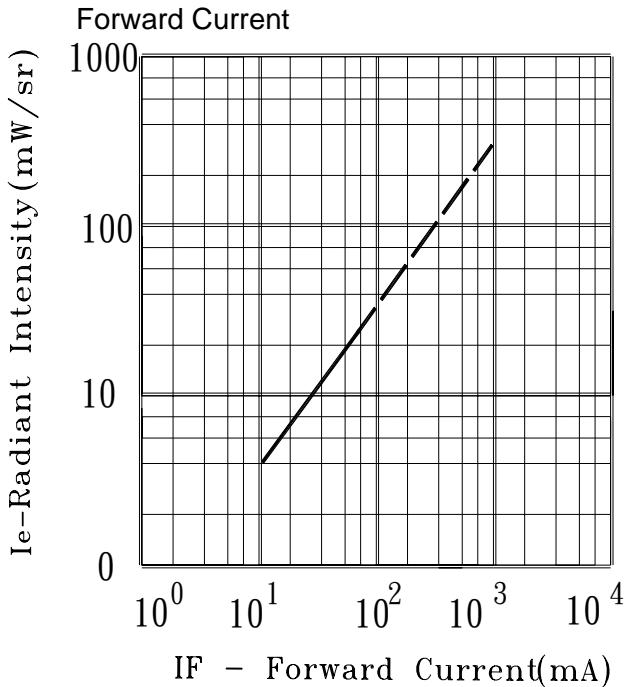


Fig.6 Relative Radiant Intensity vs.

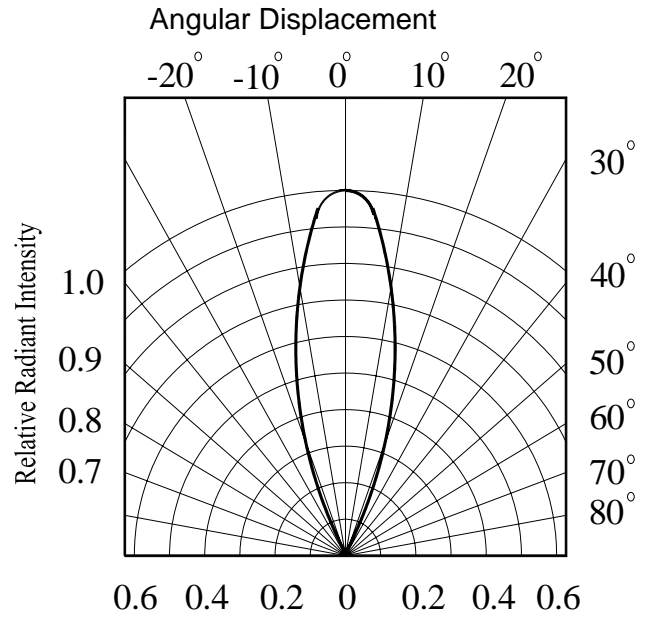


Fig.7 Relative Intensity vs.

Ambient Temperature($^{\circ}$ C)

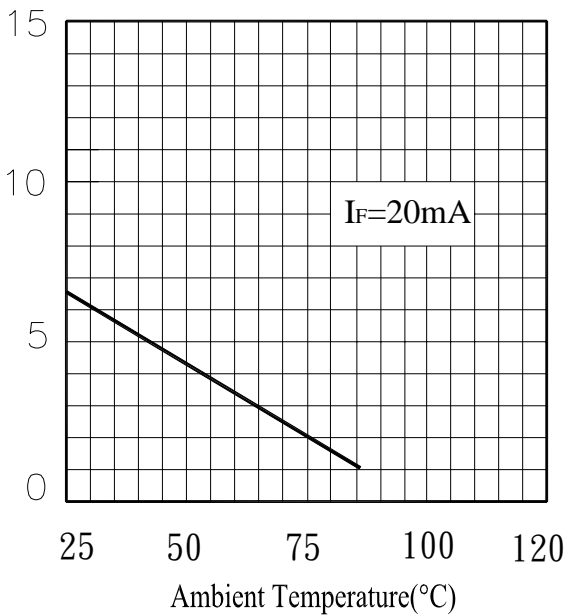
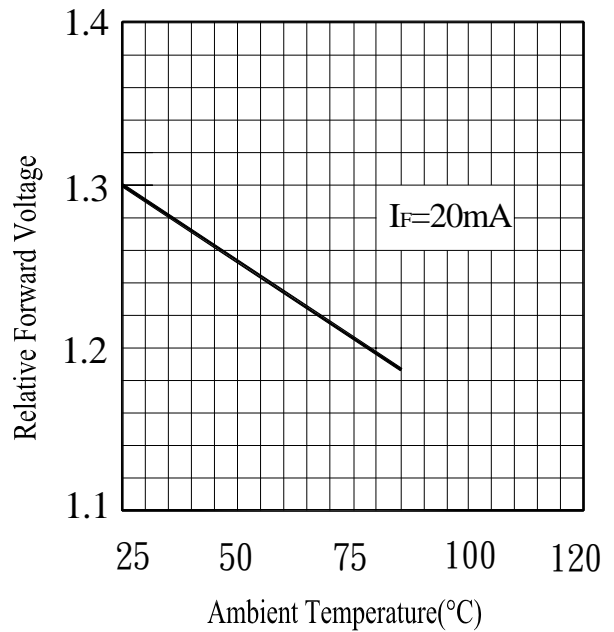


Fig.8 Forward Current vs.




Ambient Temperature($^{\circ}$ C)



Packing Quantity Specification

- 1.1000PCS/1Bag , 4Bags/1Box
- 2.10Boxes/1Carton

Label Form Specification

| | | |
|---|---|-----------------------------------|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">EVERLIGHT</div> | | CPN: Customer's Production Number |
| CPN: | | P/N : Production Number |
| P/N: |  | QTY: Packing Quantity |
| | | CAT: Ranks |
| QTY: SIR204-A | | HUE: Peak Wavelength |
| |  | REF: Reference |
| LOT NO: | | 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.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.

| | |
|---|--|
| 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 |
|---|--|