

## 3mm Infrared LED , T-1

### IR204-A



#### Features

- High reliability
- High radiant intensity
- Peak wavelength  $\lambda_p=940\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage
- This product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)

#### Descriptions

- EVERLIGHT's Infrared Emitting Diode (IR204 -A) is a high intensity diode , molded in a blue plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

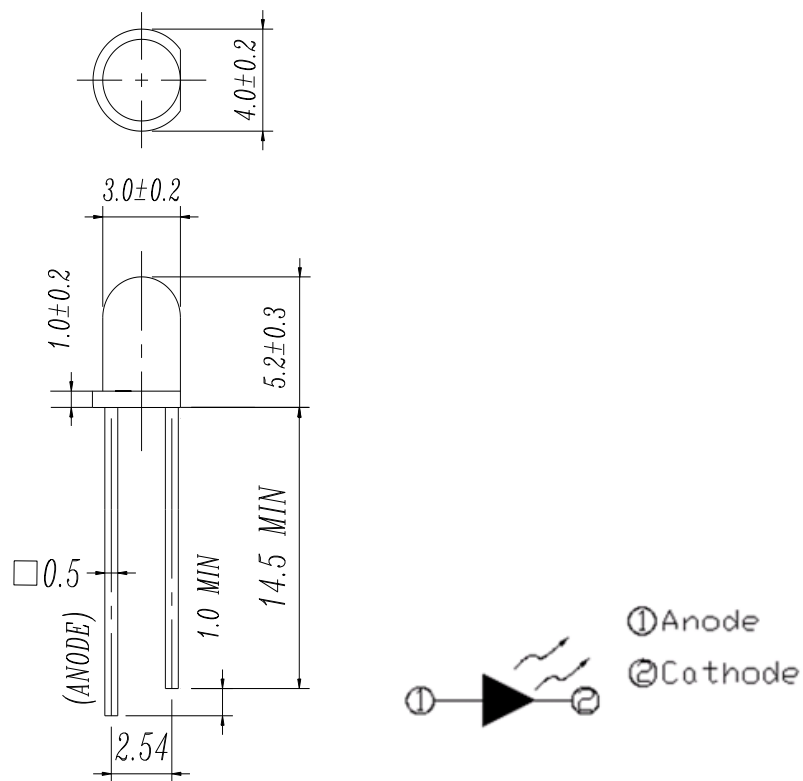
### Applications

- 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	
IR204-A	GaAlAs	Blue

### Package Dimens



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

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I <sub>F</sub>	100	mA
Peak Forward Current	I <sub>FP</sub>	1.0	A
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85	°C
Soldering Temperature	T <sub>sol</sub>	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	P <sub>d</sub>	150	mW

Notes: \*1:I<sub>FP</sub> 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	I <sub>e</sub>	I <sub>F</sub> =20mA	4.0	5.6	--	mW/sr
		I <sub>F</sub> =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1%	--	38	--	
		I <sub>F</sub> =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%.	--	350	--	
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I <sub>F</sub> =20mA	--	45	--	nm
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	--	1.2	1.5	V
		I <sub>F</sub> =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1%	--	1.4	1.8	
		I <sub>F</sub> =1A Pulse Width ≤ 100 μs ,Duty ≤ 1%.	--	2.6	4.0	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA
View Angle	2θ 1/2	I <sub>F</sub> =20mA	--	35	--	deg

### Rank

Condition :  $I_F=20\text{mA}$

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

Note:

\*Measurement Uncertainty of Forward Voltage:  $\pm 0.1\text{V}$

\*Measurement Uncertainty of Luminous Intensity:  $\pm 10\%$

\*Measurement Uncertainty of Dominant Wavelength  $\pm 1.0\text{nm}$

### Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs.

Ambient Temperature

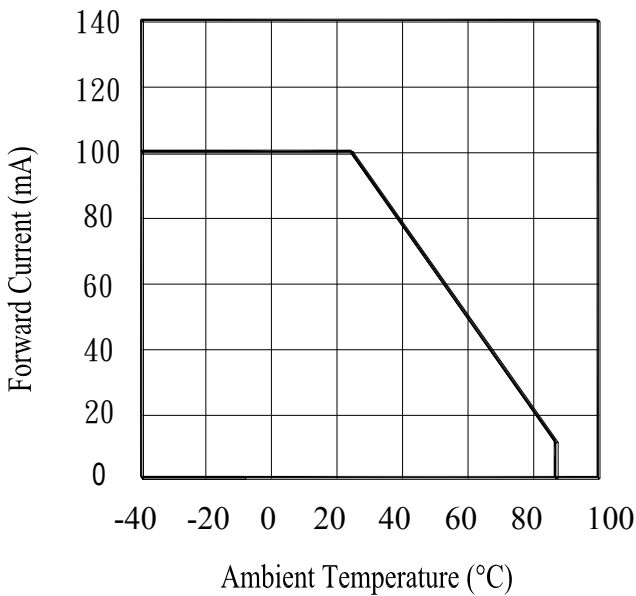


Fig.2 Spectral Distribution

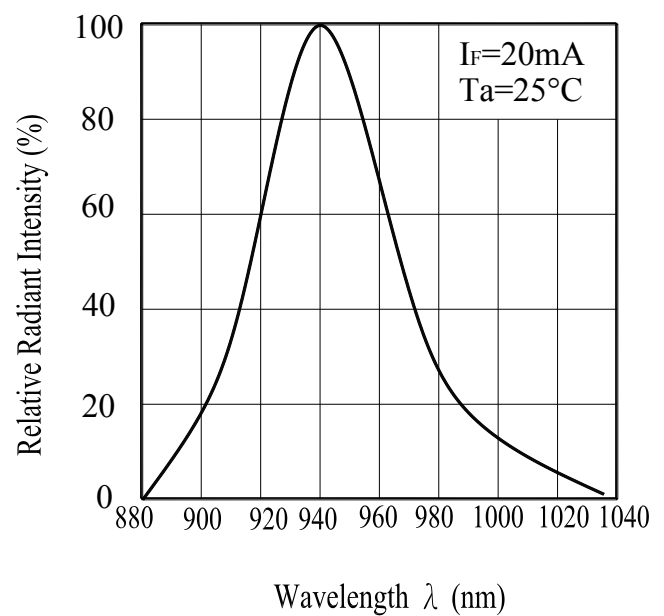


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

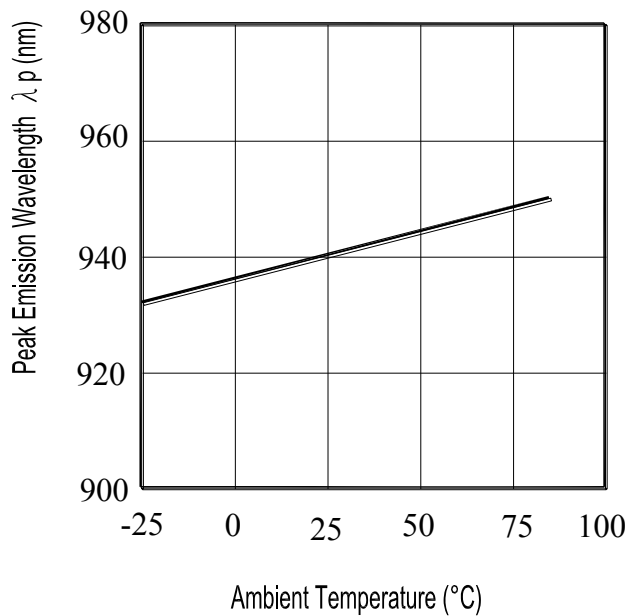
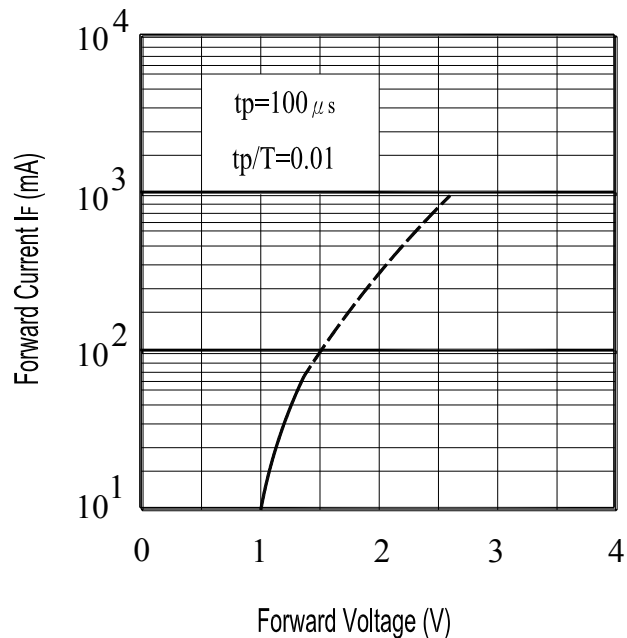


Fig.4 Forward Current vs. Forward Voltage



### Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.  
 Forward Current

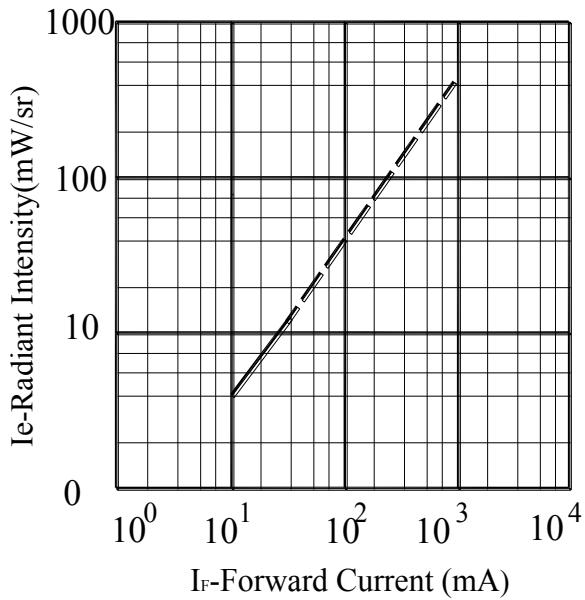
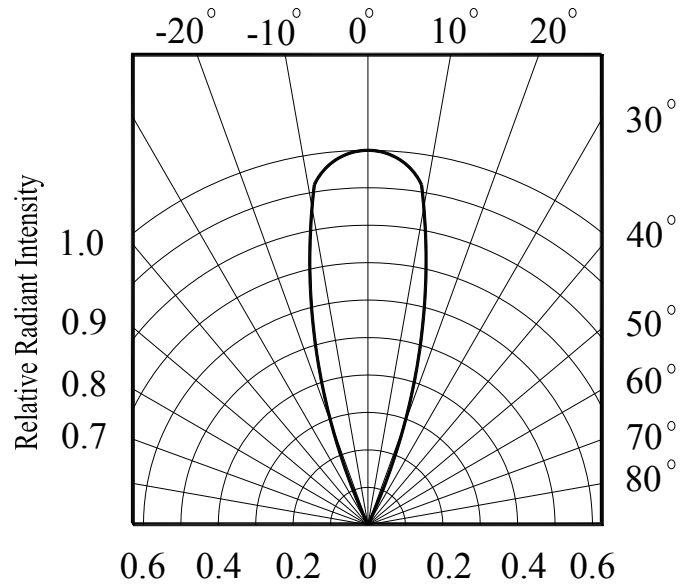


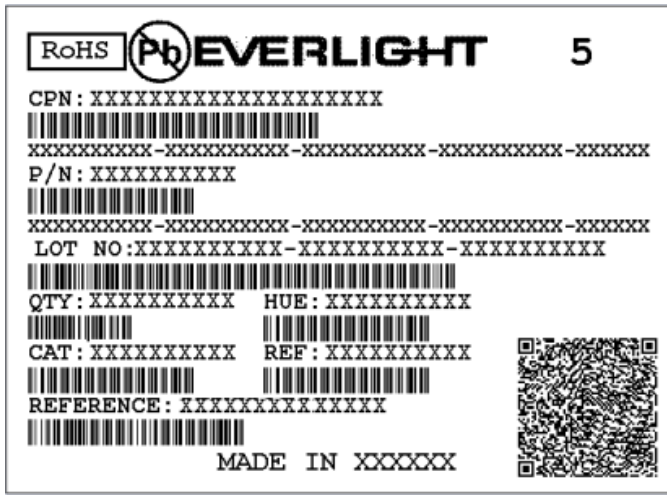
Fig.6 Relative Radiant Intensity vs.  
 Angular Displacement



### Packing Quantity Specification

1. 200~1000PCS/1Bag,4Bags/1Box
2. 10Boxes/1Carton

### 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

X: Month

Reference: Identify Label Number

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2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
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