

Technical Data Sheet

3mm Infrared LED , T-1 IR204C-A



Features

- High reliability
- High radiant intensity
- Peak wavelength $\lambda_p=940\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage
- Pb free
- 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 (IR204C -A) is a high intensity diode , molded in a water clear plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

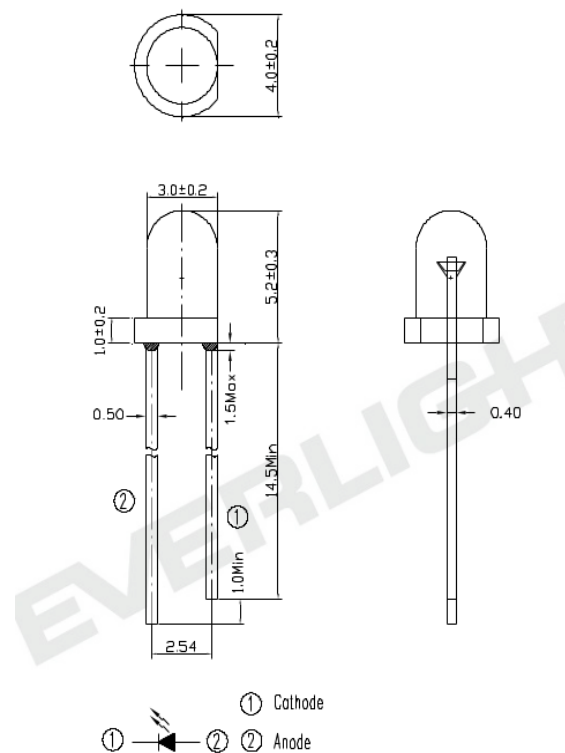
Applications

- Free air transmission system
- Infrared remote control units with high power requirement
- Smoke detector
- Infrared applied system
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
IR	GaAlAs	Water clear

Package Dimensions



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

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 $\leq 100 \mu s$ and Duty $\leq 1\%$.

*2:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	Ee	$I_F=20\text{mA}$	4.0	7.8		mW/sr
		$I_F=100\text{mA}$ Pulse Width $\leq 100 \mu s$, Duty $\leq 1\%$	--	35	--	
		$I_F=1\text{A}$ Pulse Width $\leq 100 \mu s$, Duty $\leq 1\%$.	--	390	--	
Peak Wavelength	λp	$I_F=20\text{mA}$	--	940	--	nm
Spectral Bandwidth	$\Delta \lambda$	$I_F=20\text{mA}$	--	45	--	nm
Forward Voltage	V_F	$I_F=20\text{mA}$		1.2	1.5	V
		$I_F=100\text{mA}$ Pulse Width $\leq 100 \mu s$, Duty $\leq 1\%$	--	1.4	1.8	
		$I_F=1\text{A}$ Pulse Width $\leq 100 \mu s$, Duty $\leq 1\%$.	--	2.6	4.0	
Reverse Current	I_R	$V_R=5\text{V}$	--	--	10	μA
View Angle	$2 \theta 1/2$	$I_F=20\text{mA}$	--	40	--	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

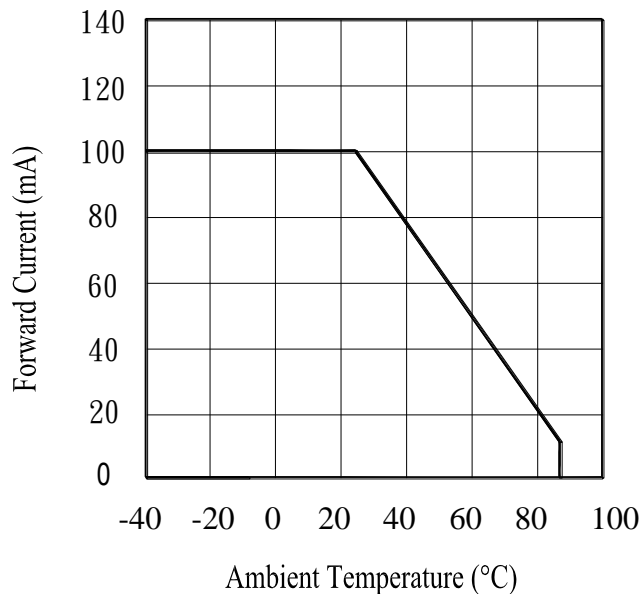


Fig.2 Spectral Distribution

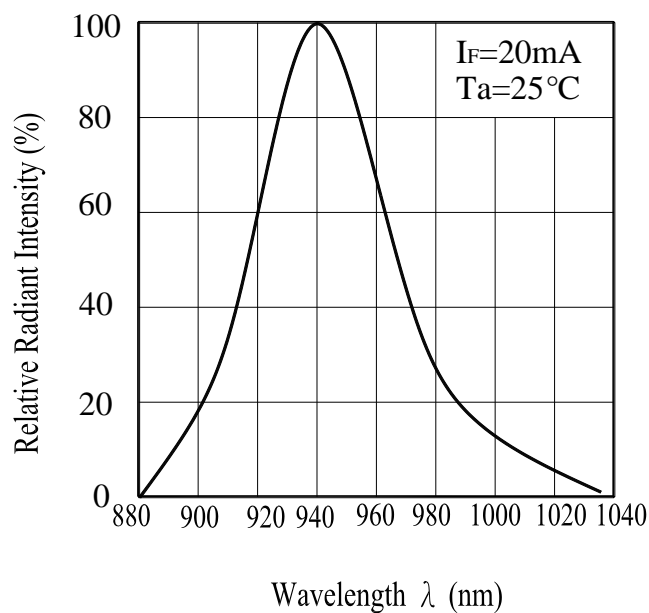


Fig.3 Peak Emission Wavelength
 Ambient Temperature

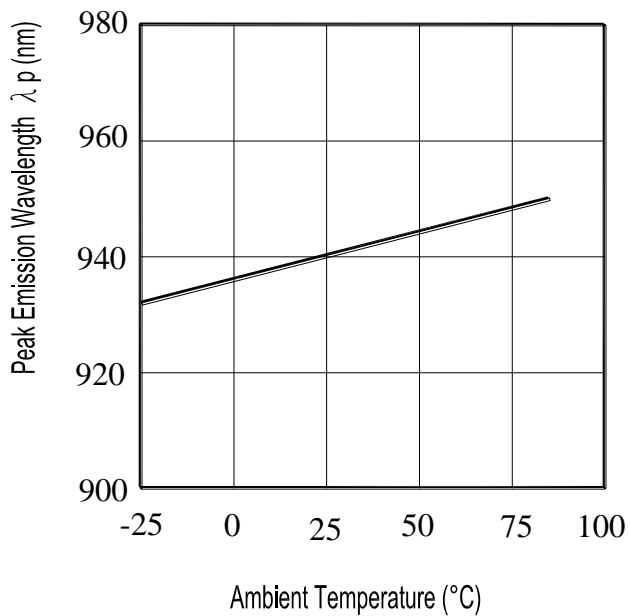
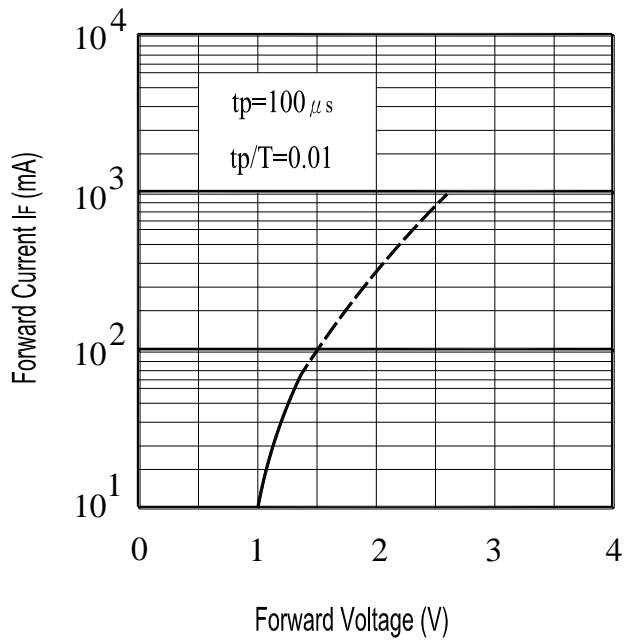


Fig.4 Forward Current
 vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.
Forward Current

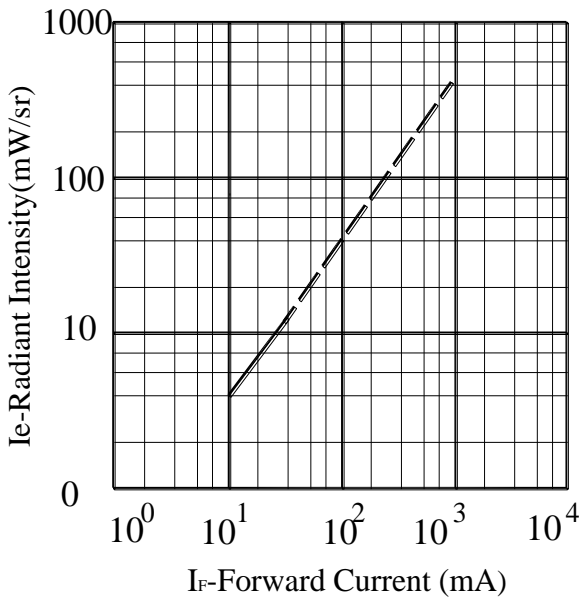


Fig.6 Relative Radiant Intensity vs.
Angular Displacement

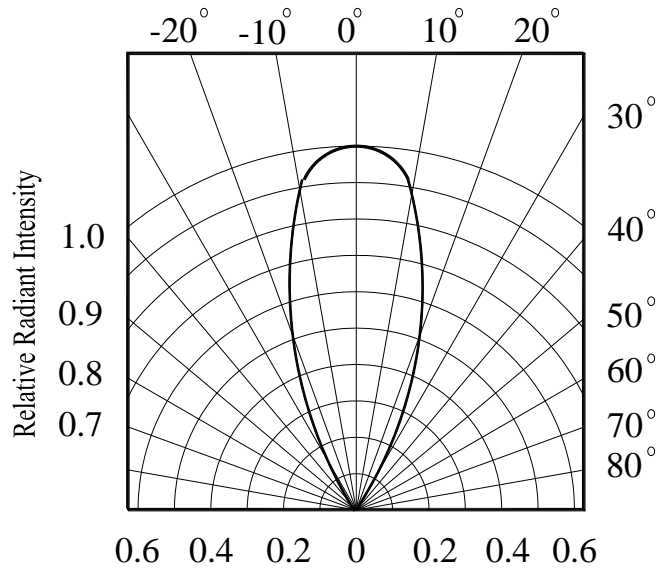


Fig.7 Relative Intensity vs.
Ambient Temperature(° C)

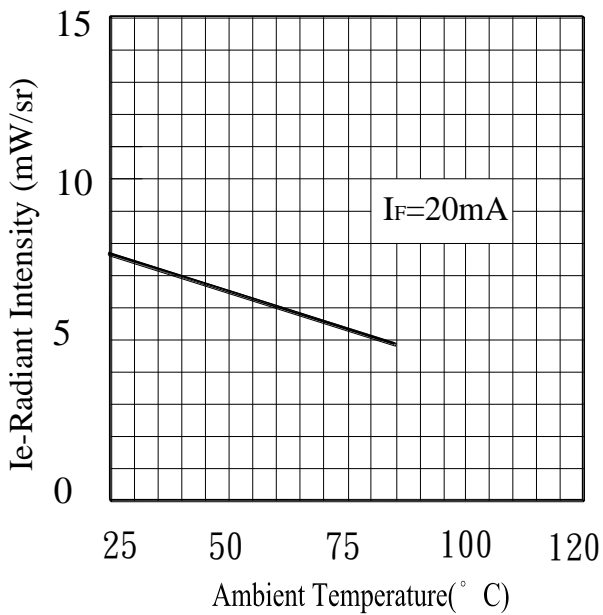
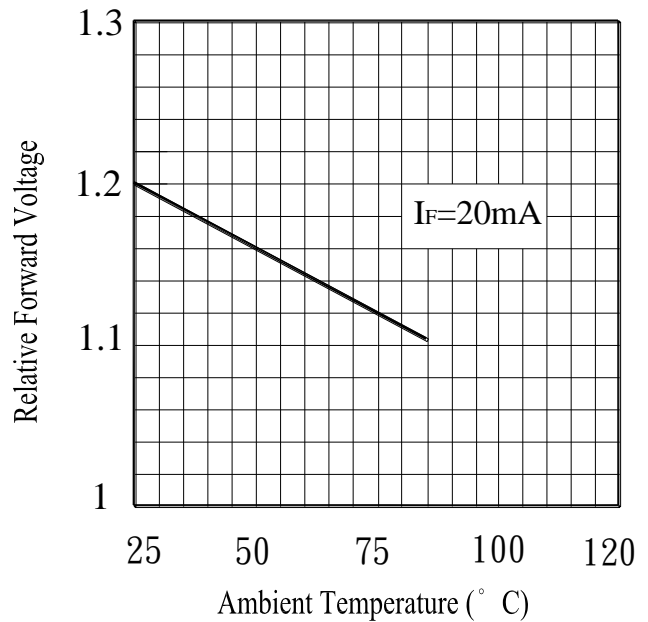


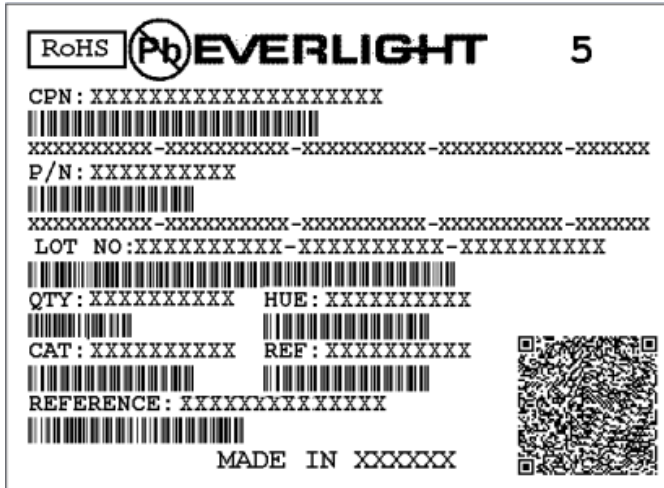
Fig.8 Forward Current vs.
Ambient Temperature(° C)



Packing Quantity Specification

- 1.200~ 1000PCS/1Bag,5Bag/1Box
2. 10Boxes/1Carton

Label Form Specification



CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number

DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
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.
4. 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 the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.

6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.