

### Technical Data Sheet

### 5mm Infrared LED , T-1 3/4

### IR533C



#### Feature

- High reliability
- High radiant intensity
- Peak wavelength  $\lambda_p=940\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage
- Pb Free
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)

#### Descriptions

- EVERLIGHT's Infrared Emitting Diode (IR533C) is a high intensity diode , molded in a blue plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

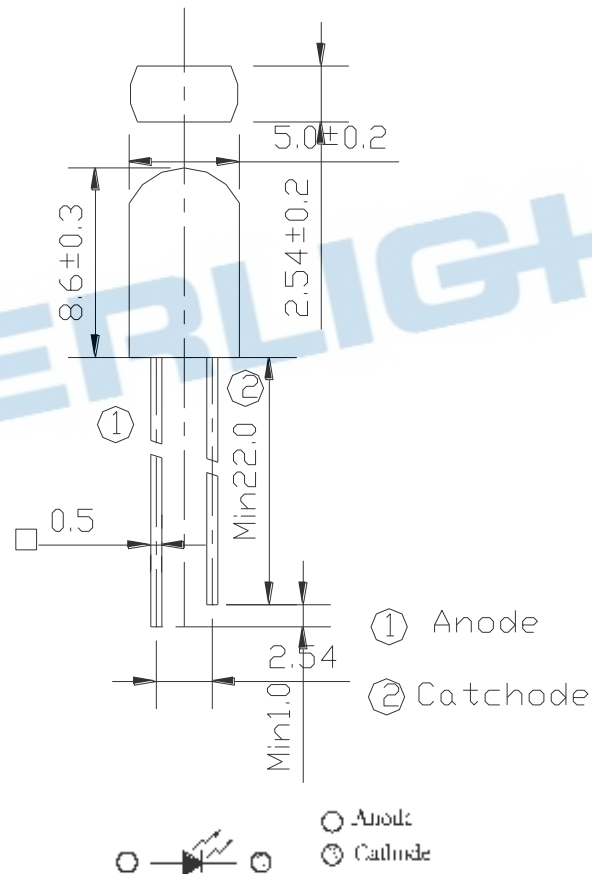
## Applications

- 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	
IR533C	GaAlAs	Water Clear

## Package Dimensions



- 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	$I_F$	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  $\leq 5$  seconds.

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	$I_e$	$I_F=20mA$	4.0	7.8	--	mW/sr
		$I_F=100mA$ Pulse Width $\leq 100 \mu s$ , Duty $\leq 1\%$	--	35	--	
		$I_F=1A$ Pulse Width $\leq 100 \mu s$ , Duty $\leq 1\%$ .	--	350	--	
Peak Wavelength	$\lambda_p$	$I_F=20mA$	--	940	--	nm
Spectral Bandwidth	$\Delta \lambda$	$I_F=20mA$	--	45	--	nm
Forward Voltage	$V_F$	$I_F=20mA$		1.2	1.5	V
		$I_F=100mA$ Pulse Width $\leq 100 \mu s$ , Duty $\leq 1\%$	--	1.4	1.85	
		$I_F=1A$ Pulse Width $\leq 100 \mu s$ , Duty $\leq 1\%$ .	--	2.6	4.0	
Reverse Current	$I_R$	$V_R=5V$	--	--	10	$\mu A$
View Angle	$2 \theta_{1/2}$	$I_F=20mA$	--	25	--	deg

**Rank**

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

Unit : mW/sr

Bin Number	K	L	M	N	P
Min	4.0	5.6	7.8	11.0	15.0
Max	6.4	8.9	12.5	17.6	24.0

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

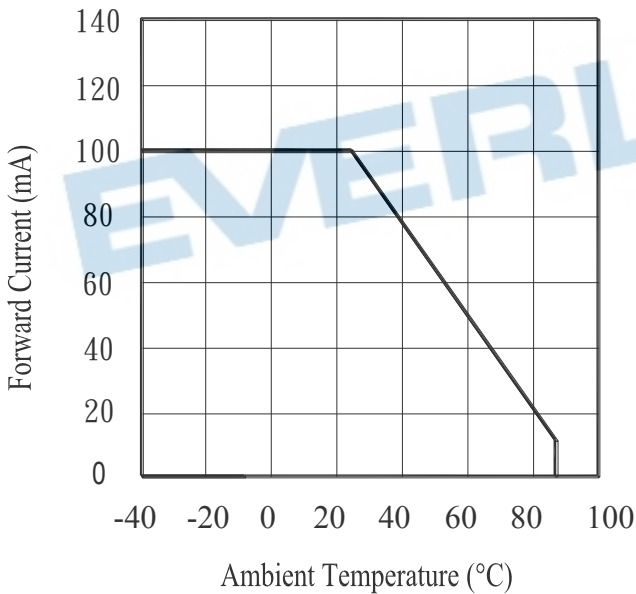


Fig.2 Spectral Distribution

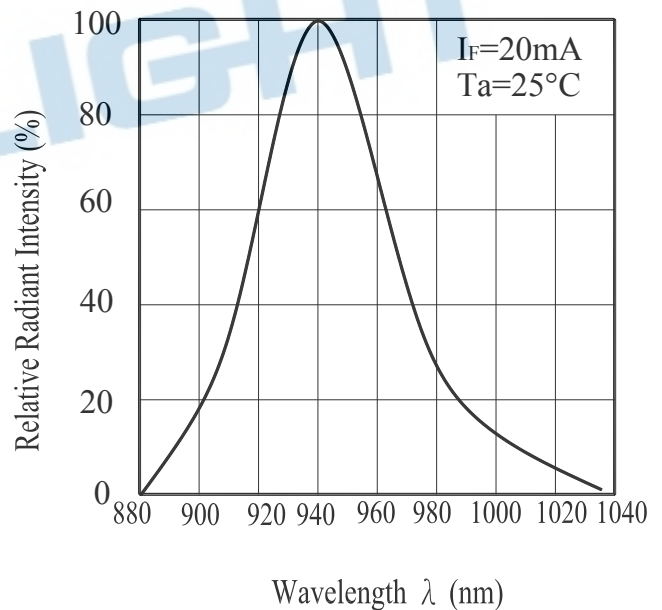


Fig.3 Peak Emission Wavelength  
Ambient Temperature

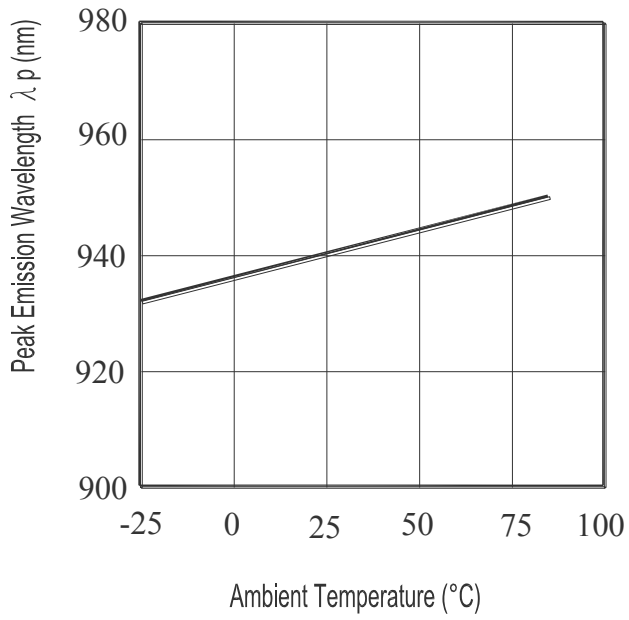
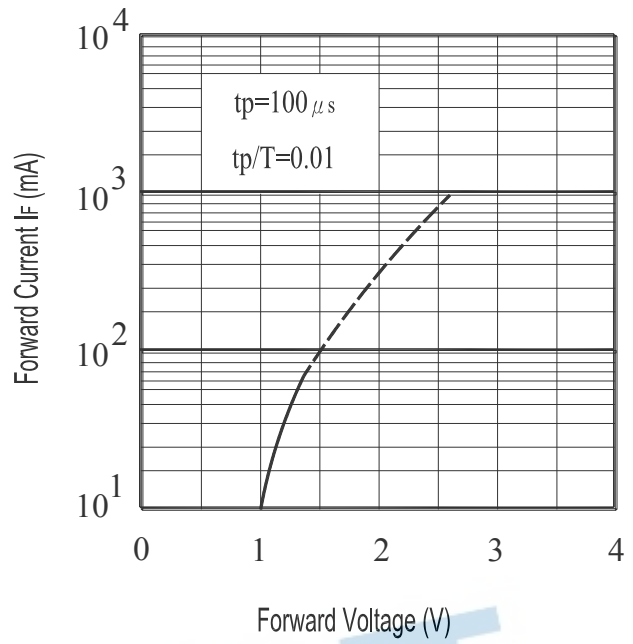


Fig.4 Forward Current vs. Forward Voltage



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### Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.  
Forward Current

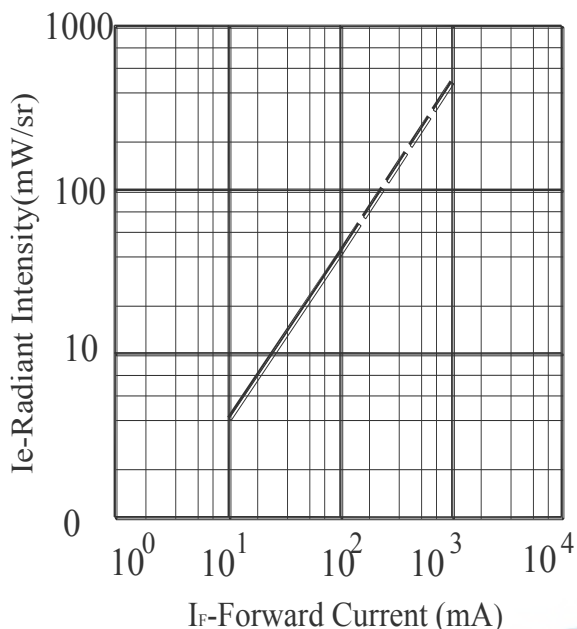


Fig.6 Relative Radiant Intensity vs.  
Angular Displacement

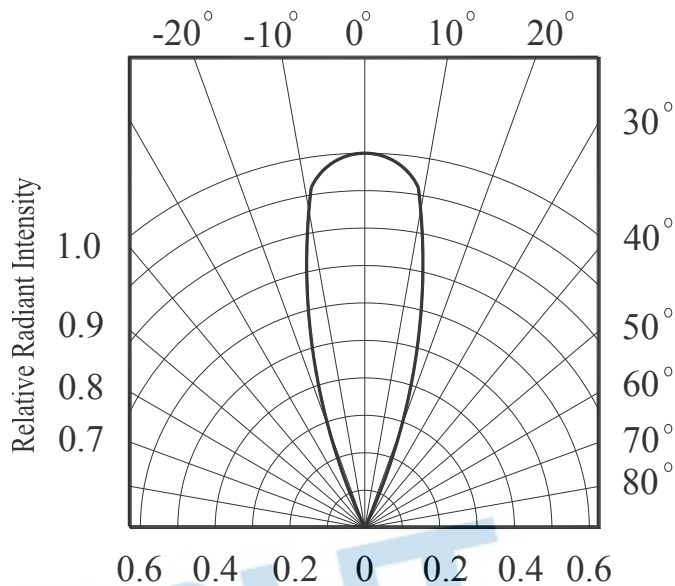


Fig.7 Relative Intensity vs.  
Ambient Temperature(°C)

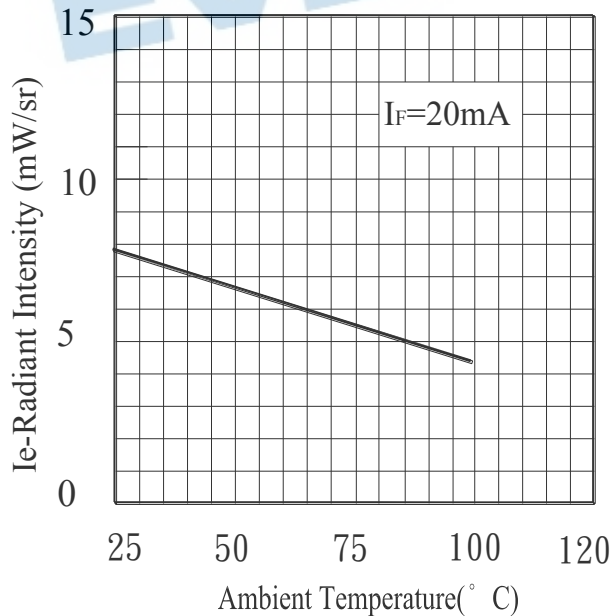
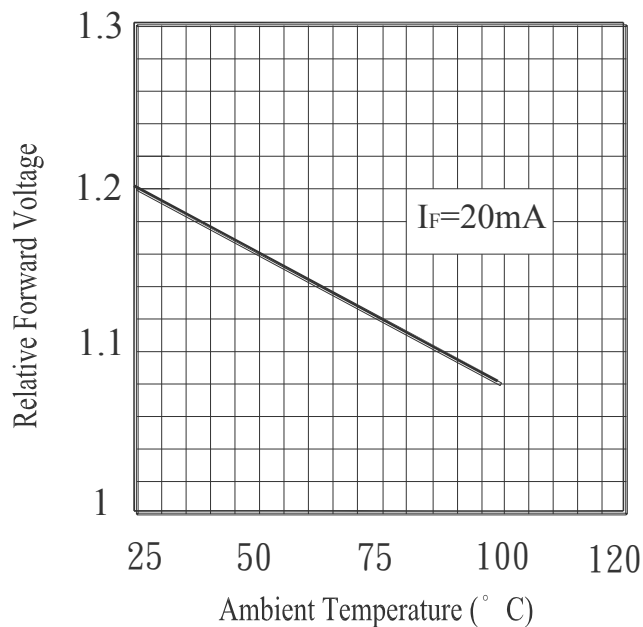






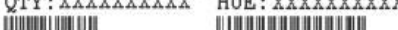



Fig.8 Forward Voltage vs.  
Ambient Temperature(°C)



## Packing Quantity Specification

1. 200~500PCS/1Bag,5Bag/1Box
2. 10Boxes/1Carton

## Label Form Specification

RoHS		<b>EVERLIGHT</b>	<b>5</b>
CPN: XXXXXXXXXXXXXXXXXXXX			
			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
P/N: XXXXXXXXXXXX			
			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
LOT NO:XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
			
QTY: XXXXXXXXXXXX		HUE: XXXXXXXXXXXX	
			
CAT: XXXXXXXXXXXX		REF: XXXXXXXXXXXX	
			
REFERENCE: XXXXXXXXXXXXXXXX			
			
MADE IN XXXXXX			
			

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: 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.
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