



Technical Data Sheet

5mm Infrared LED , T-1 3/4

HIR333/C8

Features

- High reliability
- High radiant intensity
- Peak wavelength $\lambda_p=850\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage

Descriptions

- EVERLIGHT'S Infrared Emitting Diode(HIR333/C8) 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
- Infrared remote control units with high power requirement
- Smoke detector
- Infrared applied system

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
HIR	GaAlAs	Blue

Electro-Optical Characteristics (Ta=25)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	Ee	I _F =20mA	11	20	--	mW/sr
		I _F =100mA Pulse Width 100 μ s ,Duty 1%	--	150	--	
		I _F =1A Pulse Width 100 μ s ,Duty 1%.	--	950	--	
Peak Wavelength	λ p	I _F =20mA	--	850	--	nm
Spectral Bandwidth	Δ λ	I _F =20mA	--	45	--	nm
Forward Voltage	V _F	I _F =20mA		1.45	1.65	V
		I _F =100mA Pulse Width 100 μ s ,Duty 1%	--	1.80	2.40	
		I _F =1A Pulse Width 100 μ s ,Duty 1%.	--	4.10	5.25	
Reverse Current	I _R	V _R =5V	--	--	10	μ A
View Angle	2 θ 1/2	I _F =20mA	--	17	--	deg

Rank

Condition : I_F=20mA

Unit : mW/sr

Bin Number	N	P	Q	R	S
Min	11.0	15.0	21.0	30	42
Max	17.6	24.0	34.0	48	67

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

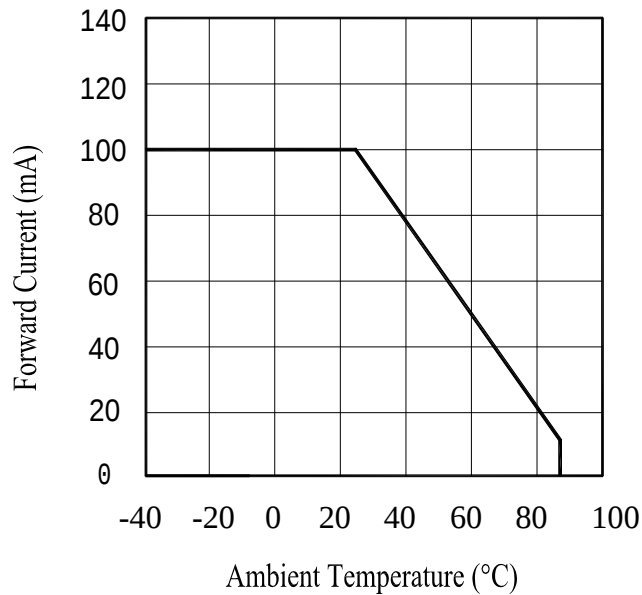


Fig.2 Spectral Distribution

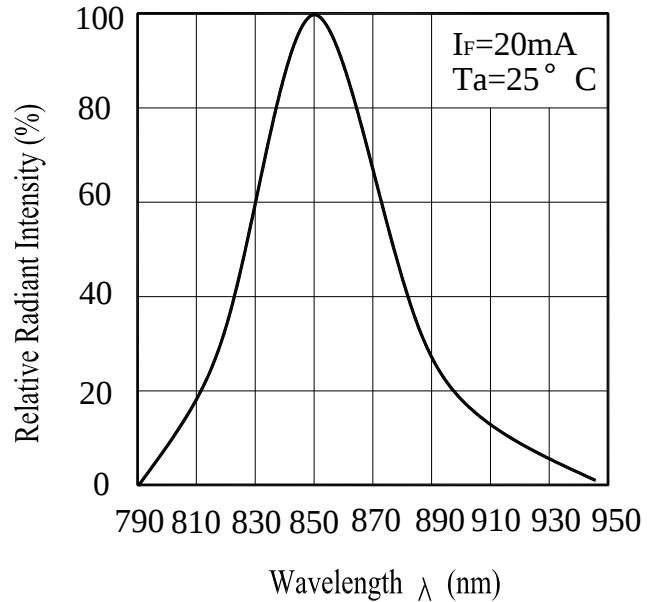


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

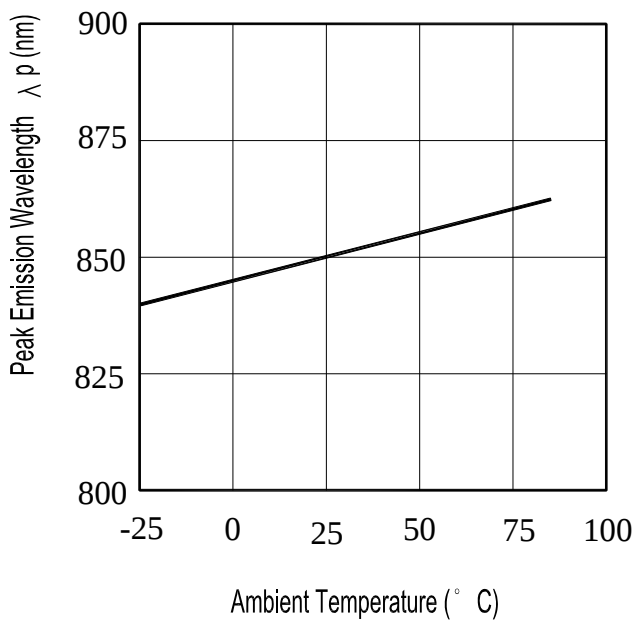
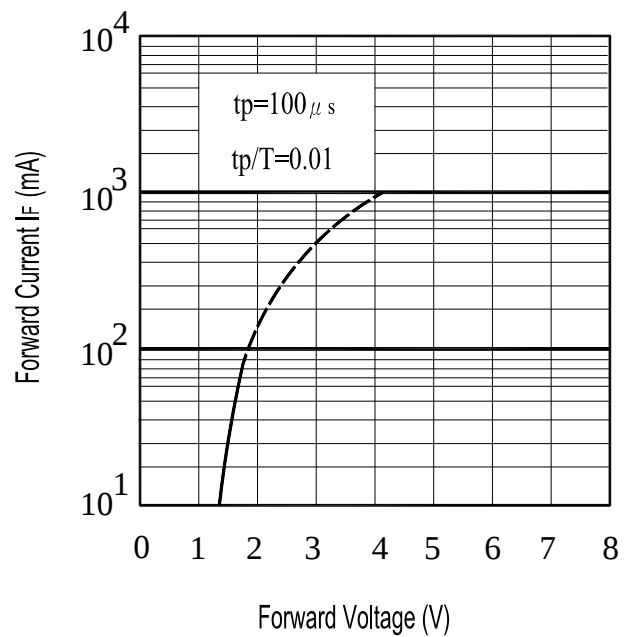


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.

Forward Current

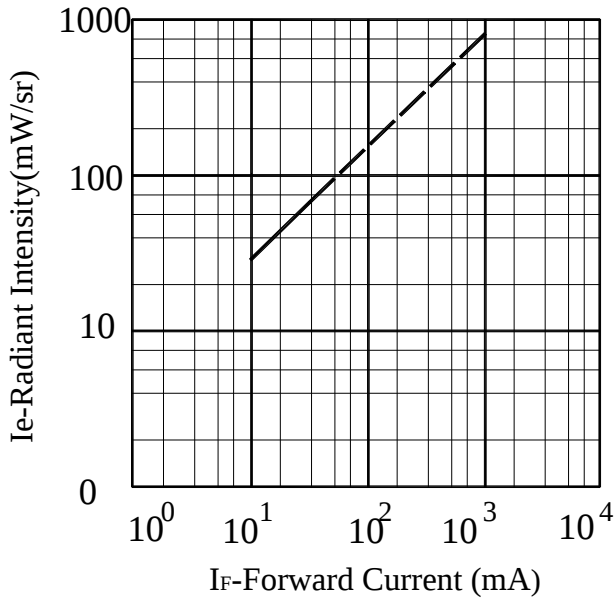


Fig.6 Relative Radiant Intensity vs.

Angular Displacement

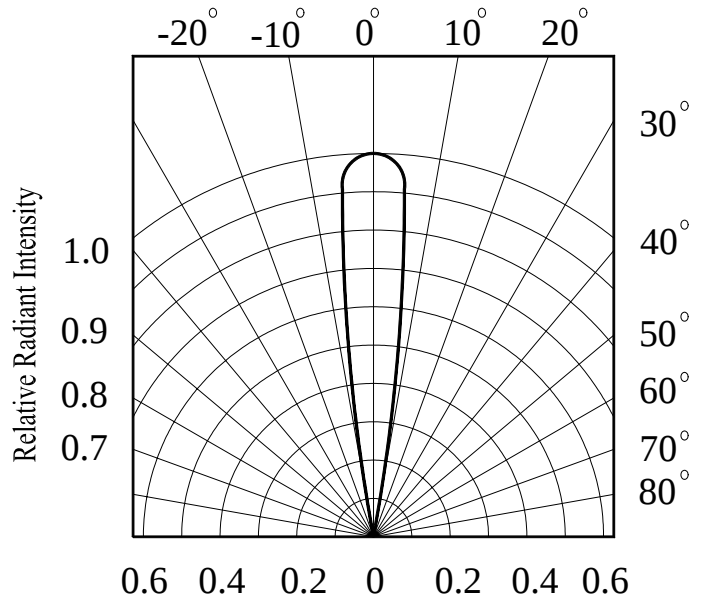


Fig.7 Relative Intensity vs.

Ambient Temperature(° C)

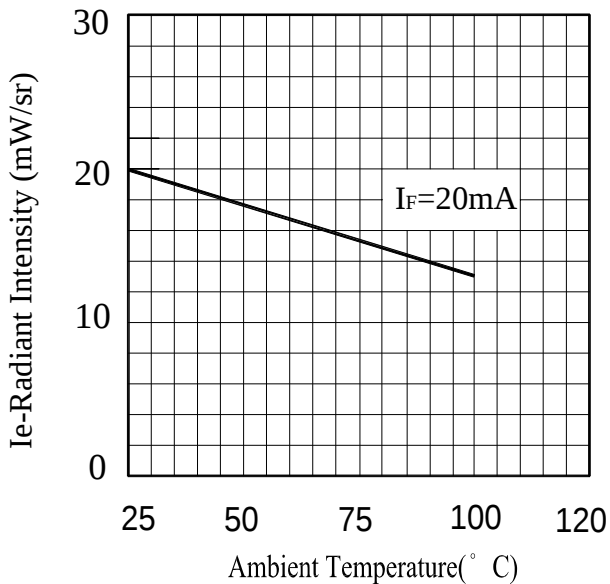
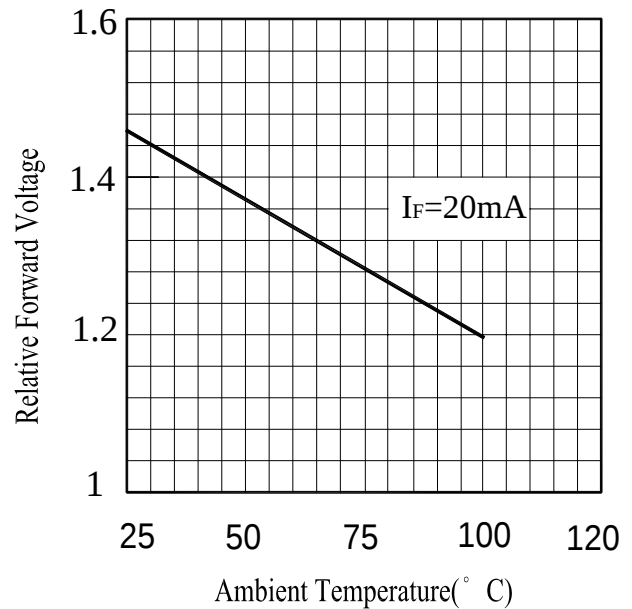


Fig.8 Forward Current vs.

Ambient Temperature(° C)



Reliability Test Item And Condition

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

Confidence level : 90%

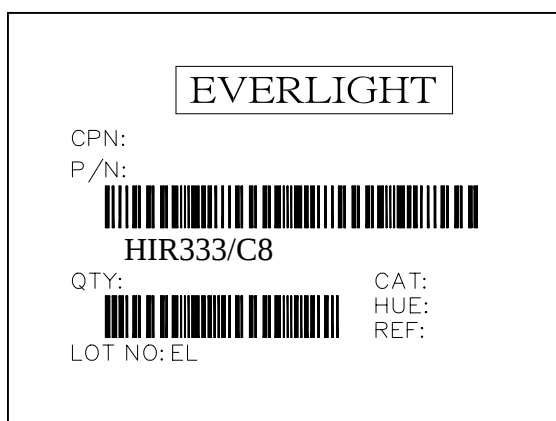
LTPD : 10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP. : 260 ± 5	10secs	22pcs	$I_R \quad U \times 2$ $E_e \quad L \times 0.8$ $V_F \quad U \times 1.2$ U : Upper Specification Limit L : Lower Specification Limit	0/1
2	Temperature Cycle	H : +85 30mins $\updownarrow$ 5mins L : -55 30mins	50Cycles	22pcs		0/1
3	Thermal Shock	H : +100 5mins $\updownarrow$ 10secs L : -10 5mins	50Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : +100	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : -55	1000hrs	22pcs		0/1
6	DC Operating Life	$I_F=20mA$	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85 / 85% R.H	1000hrs	22pcs		0/1

Packing Quantity Specification

1.500PCS/1Bag , 6Bags/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

MADE IN TAIWAN: Production Place

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.

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