



Technical Data Sheet

1.5mm Side Face Infrared LED

IR908-7C-F

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.



Descriptions

- EVERLIGHT's Infrared Emitting Diode (IR908-7C-F) is a high intensity diode, molded in a water clear plastic package.
- The miniature side-facing device has a chip, that emits radiation from the side of the clear package.

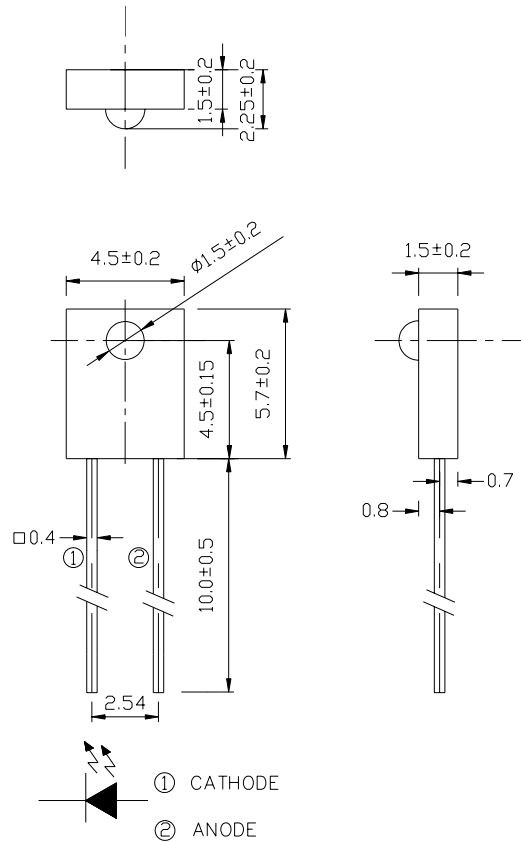
Applications

- Mouse
- Optoelectronic switch
- Infrared applied system

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
IR908-7C-F	GaAlAs	Water clear

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	50	mA
Peak Forward Current	I_{FP}	1.0	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-25 ~ +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	75	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
Light Current	I _{c(on)}	I _F =4mA, V _{CE} =3.5V	143	--	1274	μ A
Peak Wavelength	λ _p	I _F =20mA	--	940	--	nm
Spectral Bandwidth	Δ λ	I _F =20mA	--	45	--	nm
Forward Voltage	V _F	I _F =20mA		1.2	1.5	V
Reverse Current	I _R	V _R =5V	--	--	10	μ A
View Angle	2 θ 1/2	I _F =20mA	--	60	--	deg

Rank

Color Code	Ranks	Symbol	Min	Typ	Max	Unit	Test Condition
Red	E1	I _{c(on)}	143	---	255	μ A	I _F =4mA, V _{CE} =3.5V
Blue	E2	I _{c(on)}	214	---	343	μ A	I _F =4mA, V _{CE} =3.5V
Yellow	E3	I _{c(on)}	286	---	431	μ A	I _F =4mA, V _{CE} =3.5V
Silver	E4	I _{c(on)}	357	---	519	μ A	I _F =4mA, V _{CE} =3.5V
Green	E5	I _{c(on)}	428	---	608	μ A	I _F =4mA, V _{CE} =3.5V
Purple	E6	I _{c(on)}	500	---	696	μ A	I _F =4mA, V _{CE} =3.5V
White	E7	I _{c(on)}	571	---	784	μ A	I _F =4mA, V _{CE} =3.5V

Rough ranks

Parameter	Min	Max	Unit	Test Condition
7-2	306	441	μ A	I _F =4mA, V _{CE} =3.5V
7-1	347	550	μ A	I _F =4mA, V _{CE} =3.5V
6-2	465	750	μ A	I _F =4mA, V _{CE} =3.5V
6-1	650	1274	μ A	I _F =4mA, V _{CE} =3.5V

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

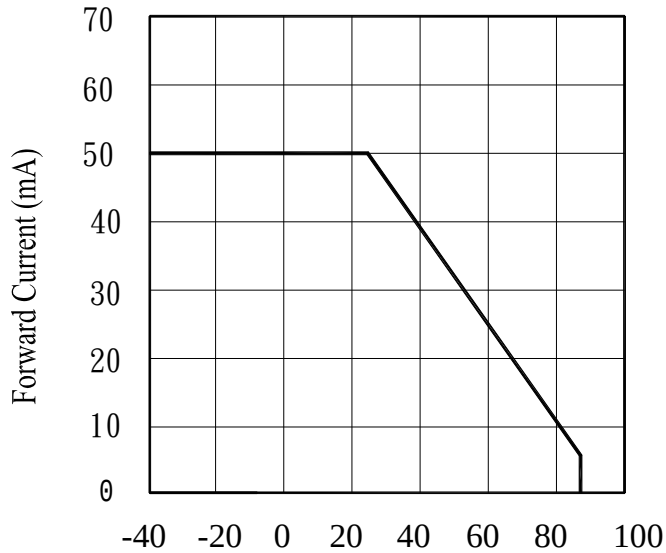


Fig.2 Spectral Distribution

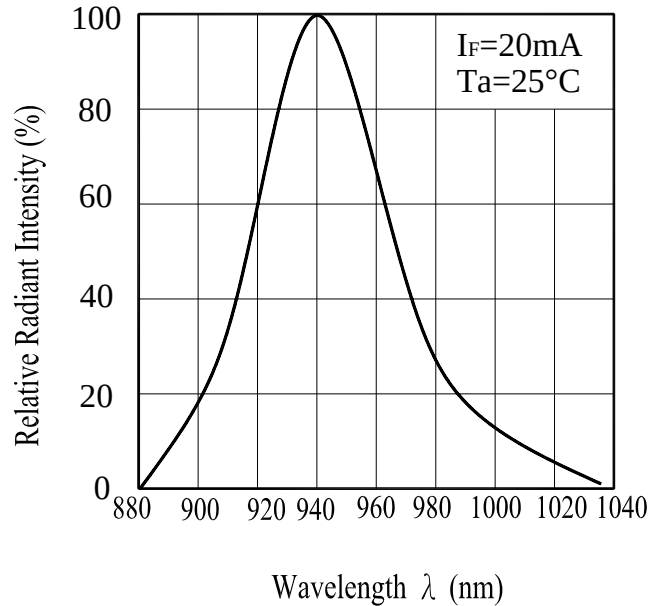


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

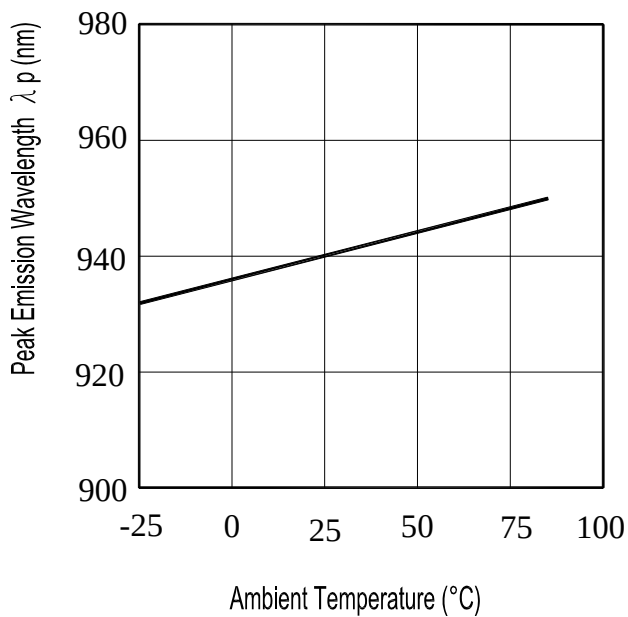
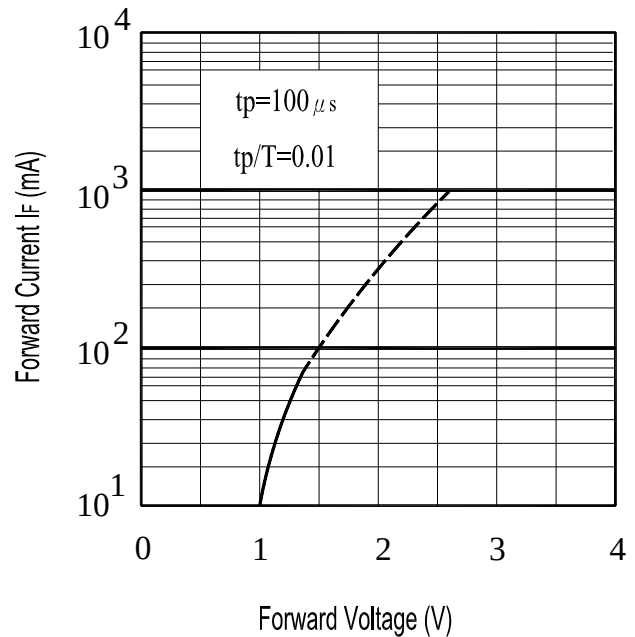


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

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

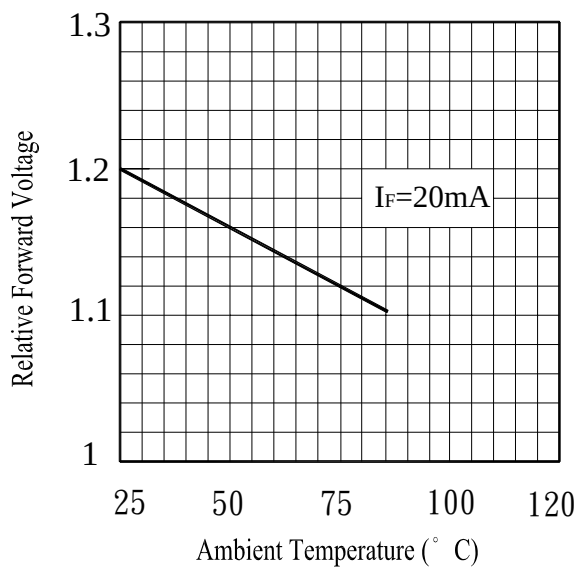
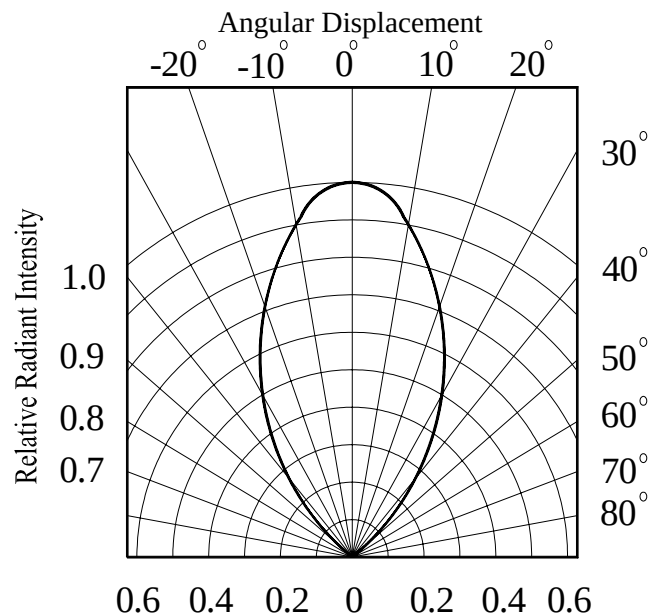


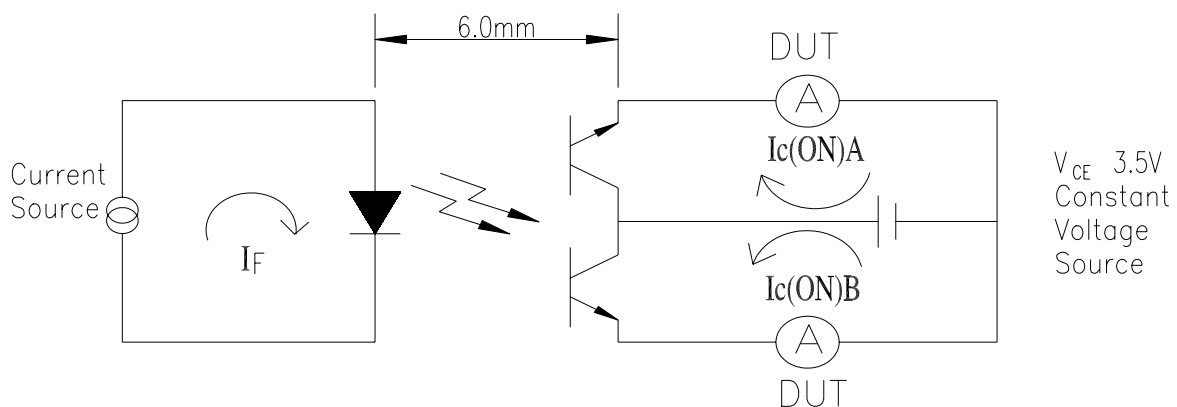
Fig.6 Relative Radiant Intensity vs.



Test Method For $I_{C(ON)}$:

Condition: $I_F = 4\text{mA}$, $V_{CE} = 3.5\text{V}$

The intensity testing method for infrared emitting diode



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°C±5°C	10secs	22pcs	$E_e \leq L \times 0.8$ $V_F \leq U$ U : Upper Specification Limit L : the initial test value	0/1
2	Temperature Cycle	H : +100°C 15mins $\updownarrow$ 5mins L : -40°C 15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H : +100°C 5mins $\updownarrow$ 10secs L : -10°C 5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : -40°C	1000hrs	22pcs		0/1
6	DC Operating Life	I _F =20mA	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85°C / 85% R.H	1000hrs	22pcs		0/1

Packing Quantity Specification

1. 1000PCS/1Bag,10Bag/1Box
2. 10Boxes/1Carton

Label Form Specification

		
CPN:		CPN: Customer's Production Number
P/N:		P/N : Production Number
		QTY: Packing Quantity
IR908-7C-F		CAT: Ranks
QTY:		HUE: Peak Wavelength
	CAT:	REF: Reference
	HUE:	
	REF:	
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>