Technical Data Sheet

1.5mm Side Face Infrared LED

IR928-6C-F

Features

- High reliability
- High radiant intensity
- Peak wavelength λp=940nm
- 2.54mm Lead spacing
- Low forward voltage
- Pb.Free
- This product itself will remain within RoHS compliant version.

Descriptions

- EVERLIGHT's Infrared Emitting Diode (IR928-6C-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.

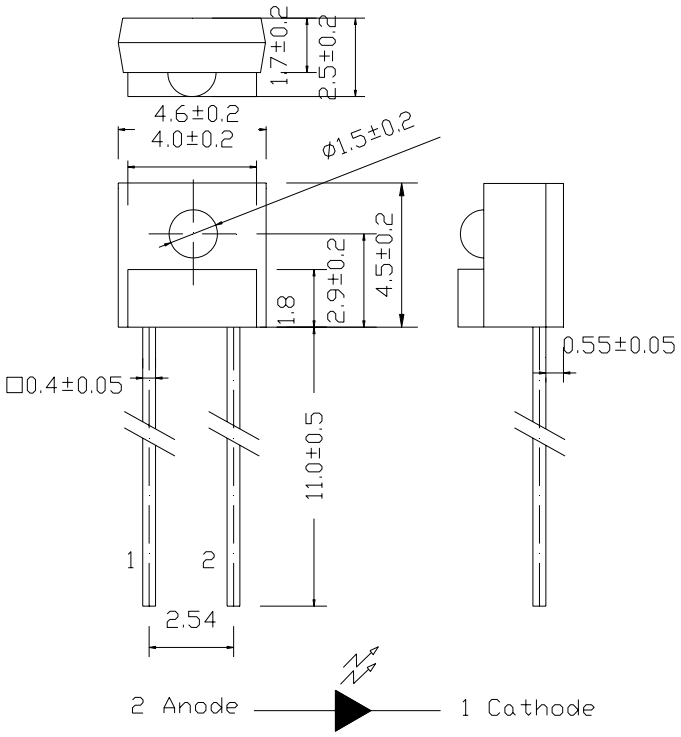
Applications

- Mouse
- Optoelectronic switch
- Infrared applied system

Device Selection Guide

LED Part No.	Chip Material	Lens Color
IR928-6C-F	GaAlAs	Water clear

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.25mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	50	mA
Peak Forward Current(*1)	I_{FP}	1.0	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-25 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
Soldering Temperature(*2)	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	75	mW

Notes: *1:I_{FP} Conditions--Pulse Width≦100 μs and Duty≦1%.
*2:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Light Current	Ic(ON)	I_F=4mA,V_{CE}=3.5V	265	--	1870	μA
Peak Wavelength	λp	I_F=20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I_F=20mA	--	50	--	nm
Forward Voltage	V_F	I_F=20mA	--	1.2	1.5	V
Reverse Current	I_R	V_R=5V	--	--	10	μA
View Angle	2θ1/2	I_F=20mA	--	40	--	deg

Wide Rank

Parameter	Symbol	Min	Max	Unit	Test Condition
5-2	Ic(ON)	1053	1870	μA	I_F=4mA,V_{CE}=3.5V
6-1	Ic(ON)	650	1274	μA	I_F=4mA,V_{CE}=3.5V
6-2	Ic(ON)	465	750	μA	I_F=4mA,V_{CE}=3.5V
7-1	Ic(ON)	347	550	μA	I_F=4mA,V_{CE}=3.5V
7-2	Ic(ON)	306	441	μA	I_F=4mA,V_{CE}=3.5V
7-3	Ic(ON)	265	358	μA	I_F=4mA,V_{CE}=3.5V

Thin Rank

Color Code	Ranks	Symbol	Min	Max	Unit	Test Condition
Yellow	E3	Ic(ON)	286	431	μA	I_F=4mA,V_{CE}=3.5V
Silver	E4	Ic(ON)	357	519	μA	I_F=4mA,V_{CE}=3.5V
Green	E5	Ic(ON)	428	608	μA	I_F=4mA,V_{CE}=3.5V
Purple	E6	Ic(ON)	500	696	μA	I_F=4mA,V_{CE}=3.5V
White	E7	Ic(ON)	571	784	μA	I_F=4mA,V_{CE}=3.5V
Brown	E8	Ic(ON)	643	872	μA	I_F=4mA,V_{CE}=3.5V
Orange	E9	Ic(ON)	714	960	μA	I_F=4mA,V_{CE}=3.5V

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

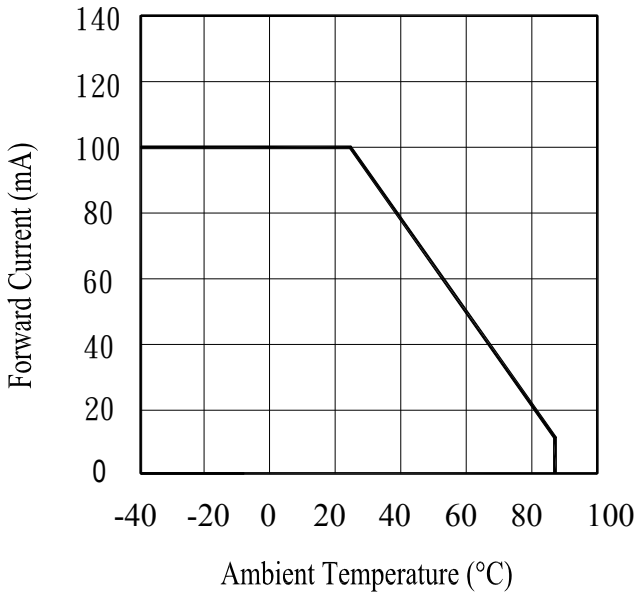


Fig.2 Spectral Distribution

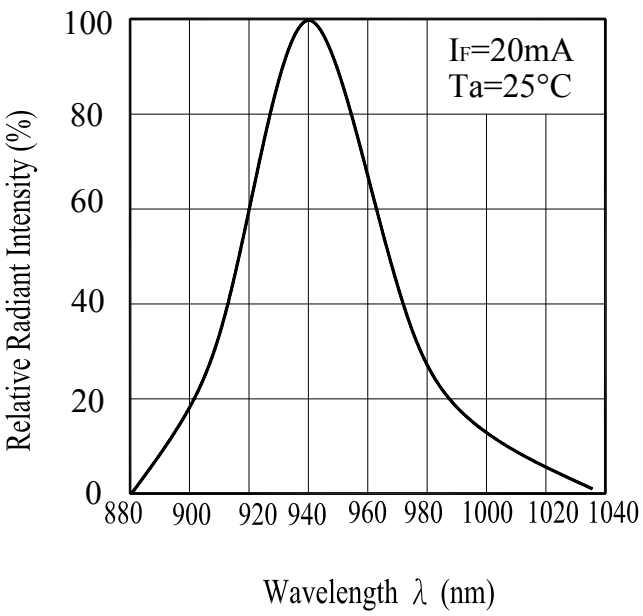


Fig.3 Peak Emission Wavelength Ambient Temperature

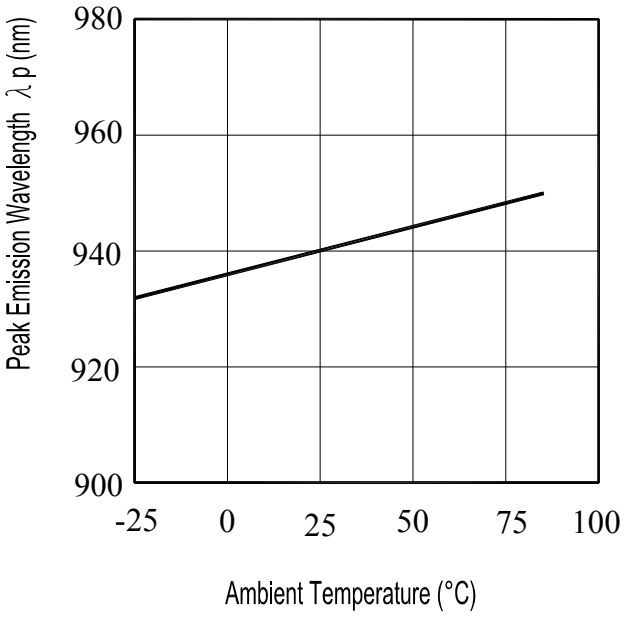
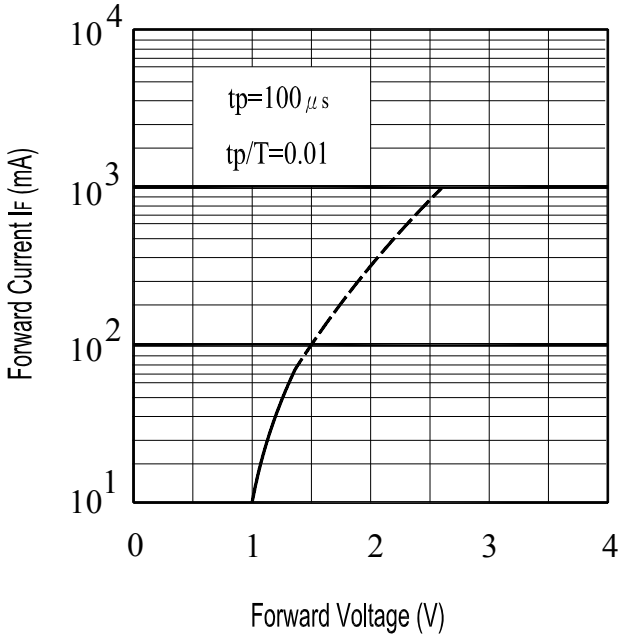


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Forward Voltage vs. Ambient Temperature

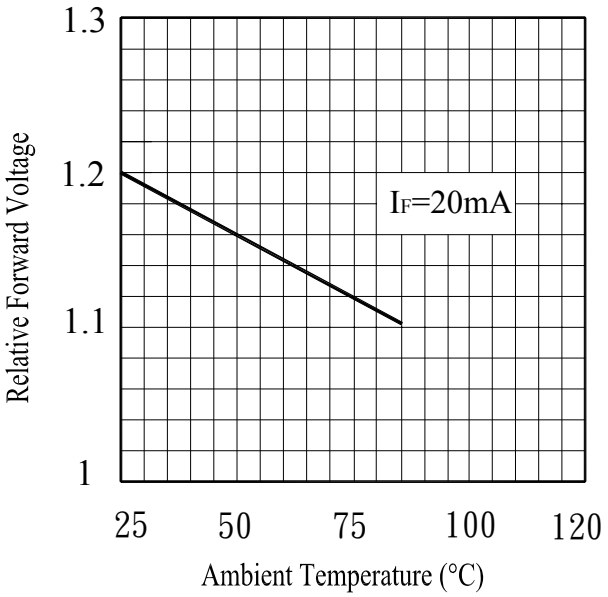
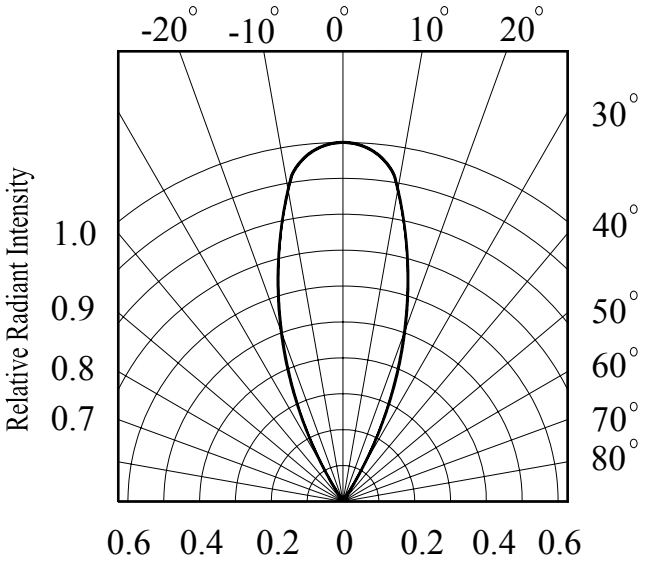
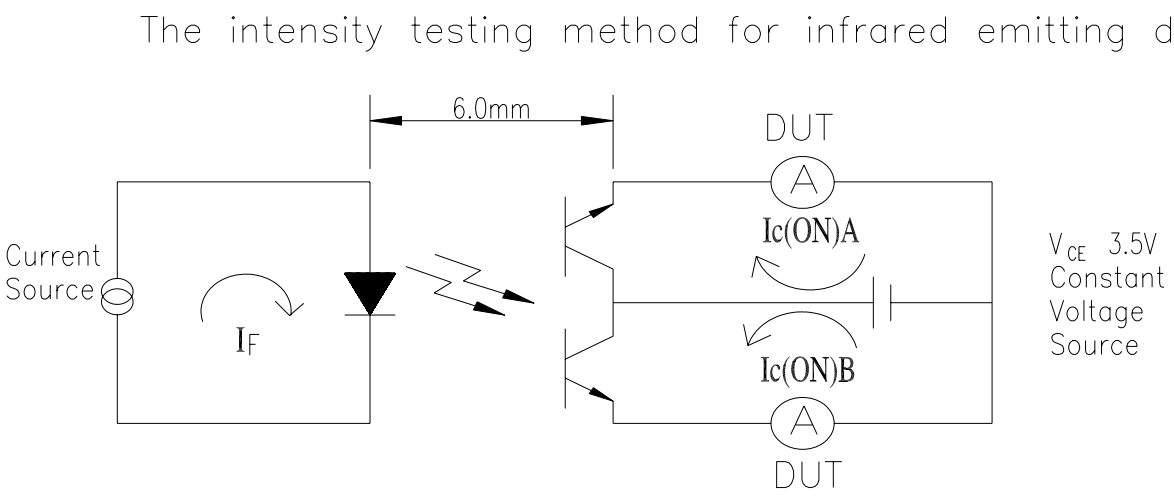


Fig.6 Relative Radiant Intensity vs. Angular Displacement



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

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



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	$I_R \geqq U \times 2$ $Ee \leqq L \times 0.8$ $V_F \geqq U \times 1.2$ U：Upper Specification Limit L：Lower Specification Limit	0/1
2	Temperature Cycle	H : +100℃ 15mins ↕ 5mins L : -40℃ 15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H :+100℃ 5mins ↕ 10secs L :-10℃ 5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP.：+100℃	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP.：-40℃	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. 1000PCS/1Bag,10Bag/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

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.
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