Technical Data Sheet

Side Face Infrared LED

IR928-6C

Features

- High reliability
- High radiant intensity
- Peak wavelength λp=940nm
- 2.54mm Lead spacing
- Low forward voltage
- Pb free

Descriptions

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

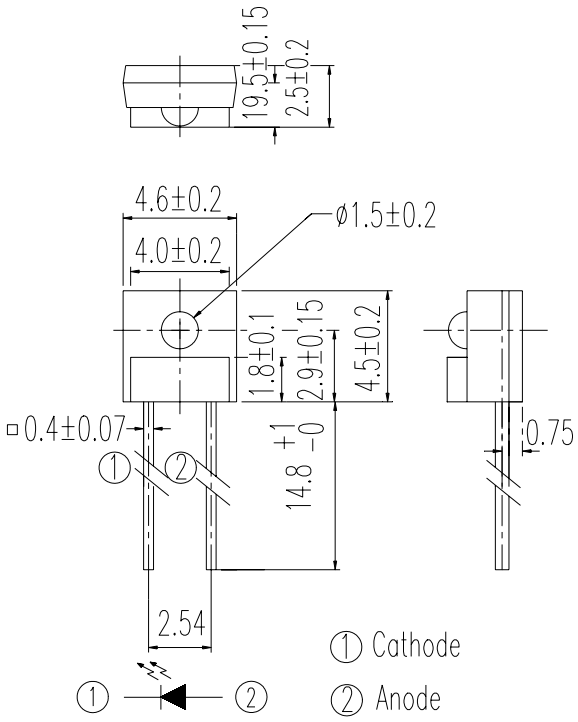
Applications

- Mouse
- Optoelectronic switch
- Infrared applied system

Device Selection Guide

LED Part No.	Chip Material	Lens Color
IR	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	100	mA
Peak Forward Current	I_{FP}	1.0	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
Soldering Temperature	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	150	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	350	--	710	μA
		I_F=5mA,V_{ON}=5V	20	--	50	
Peak Wavelength	λp	I_F=20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I_F=20mA	--	45	--	nm
Forward Voltage	V_F	I_F=20mA		1.2	1.5	V
		I_F=100mA Pulse Width≦100μs ,Duty≦1%	--	1.4	1.8	
		I_F=1A Pulse Width≦100μs ,Duty≦1%.	--	2.6	4.0	
Reverse Current	I_R	V_R=5V	--	--	10	μA
View Angle	2θ1/2	I_F=20mA	--	60	--	deg

Rank

Condition：I_F=4mA Vce=3.5V

Color Code	Parameter	Min	Max	Unit
Red	E1	140	260	μA
Blue	E2	210	350	μA
Yellow	E3	280	440	μA
Silver	E4	350	530	μA
Green	E5	420	620	μA
Purple	E6	490	710	μA
White	E7	560	800	μA
Brown	E8	630	890	μA
Orange	E9	700	980	μA

Rough Ranks

Parameter	Min	Max	Unit
7-2	300	450	μA
7-1	340	520	μA
6-2	490	750	μA
6-1	650	1300	μA

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

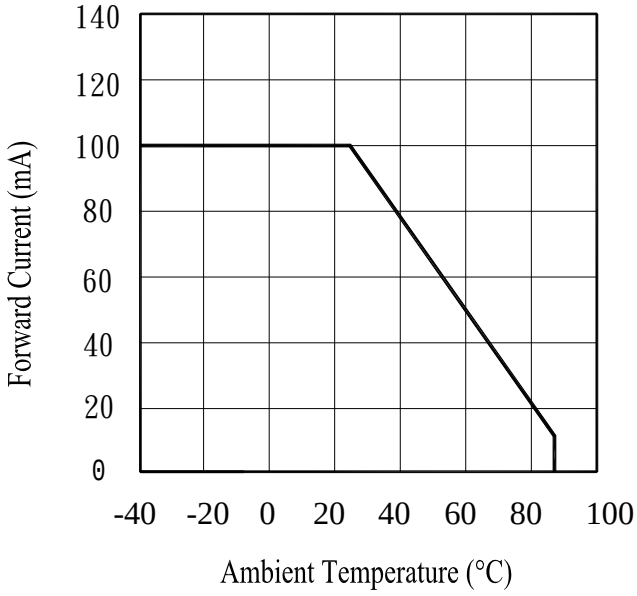


Fig.2 Spectral Distribution

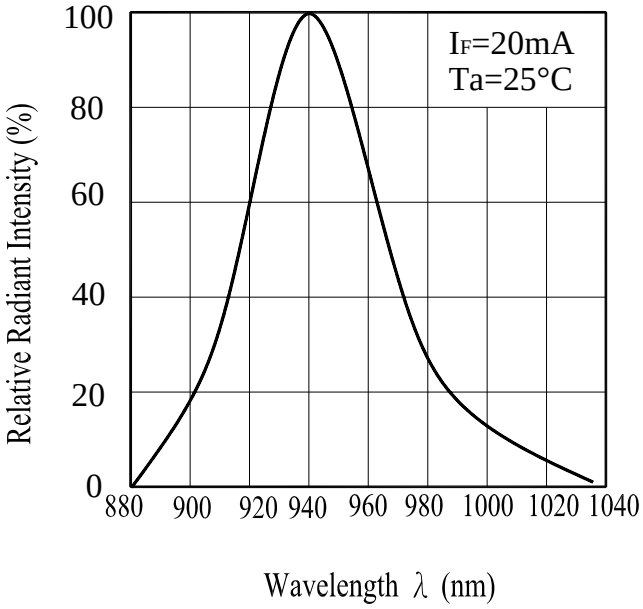


Fig.3 Peak Emission Wavelength Ambient Temperature

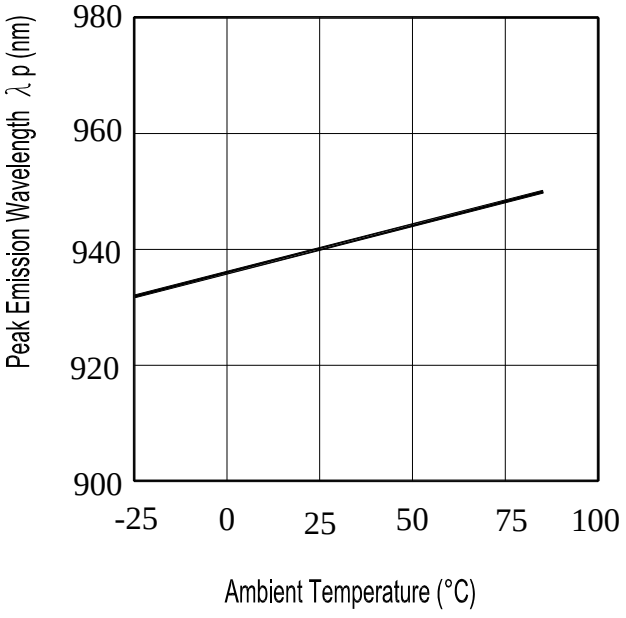
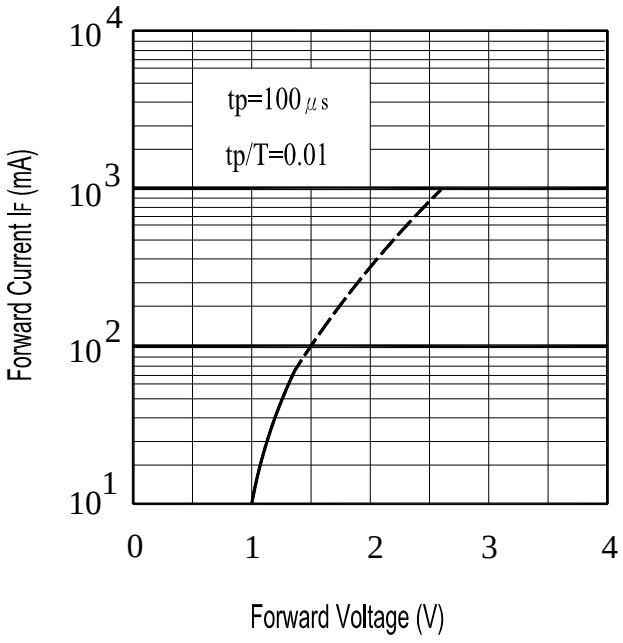


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs. Forward Current

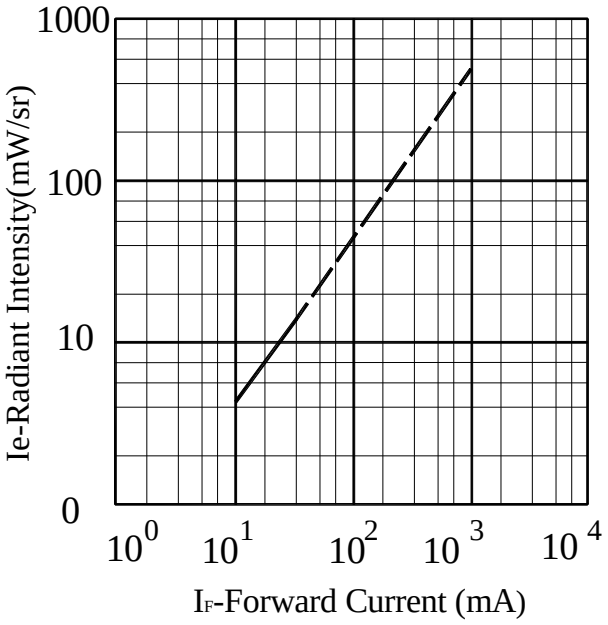


Fig.6 Relative Radiant Intensity vs. Angular Displacement

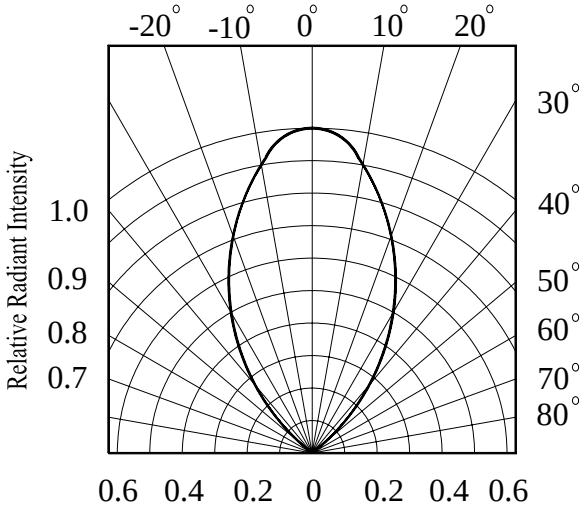


Fig.7 Relative Intensity vs. Ambient Temperature(°C)

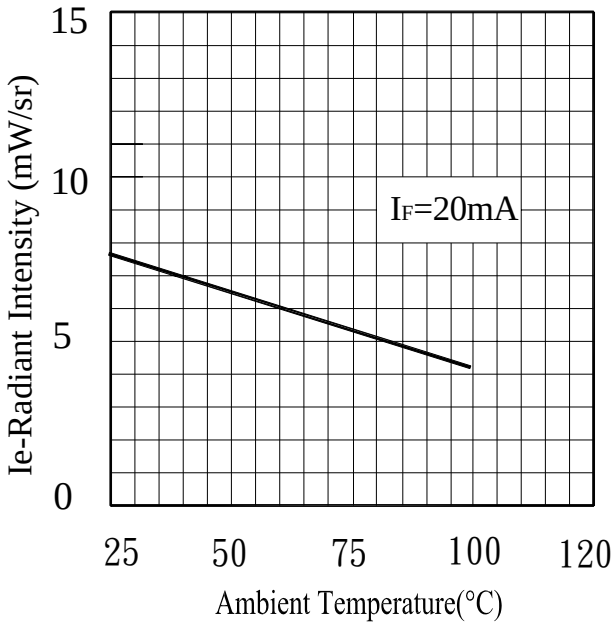
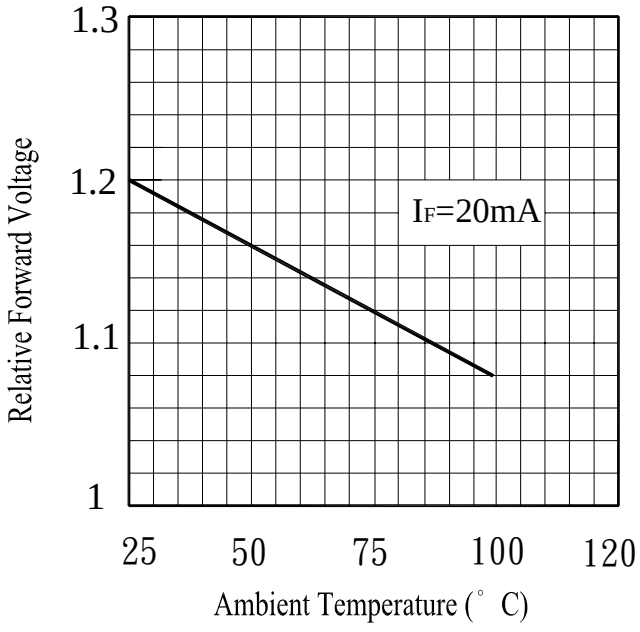


Fig.8 Forward Current vs. Ambient Temperature(°C)



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：+85℃ 30mins ↕ 5mins L：-55℃ 30mins	50Cycles	22pcs		0/1
3	Thermal Shock	H：+100℃ 5mins ↕ 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. 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
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'sconsent.

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