

### **Technical Data Sheet**

### 1.5mm Side Face Infrared LED

#### **Features**

- High reliability
- High radiant intensity
- Peak wavelength  $\lambda$  p=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 (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	
LED Fart No.	Material		
IR908-7C	GaAlAs	Water clear	

IR908-7C

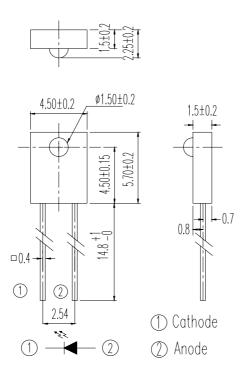
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### **Package Dimensions**



**Notes:** 1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.25mm

# Absolute Maximum Ratings (Ta=25 $^{\circ}$ C)

Parameter	Symbol	Rating	Units
Continuous Forward Current	$I_{\mathrm{F}}$	50	mA
Peak Forward Current	$I_{FP}$	1.0	A
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-25 ~ +85	$^{\circ}\!\mathbb{C}$
Storage Temperature	$T_{stg}$	-40 ~ +85	$^{\circ}\!\mathbb{C}$
Soldering Temperature	$T_{sol}$	260	$^{\circ}\!\mathbb{C}$
Power Dissipation at(or below) 25°C Free Air Temperature	P <sub>d</sub>	75	mW

**Notes:** \*1: $I_{FP}$  Conditions--Pulse Width  $\leq$  100  $\mu$  s and Duty  $\leq$  1%.

\*2:Soldering time ≤ 5 seconds.

Everlight Electronics Co., Ltd. Device No: CDIR-090-016

http:\\www.everlight.com Prepared date:2007/4/27 Rev: 1

Page: 2 of 7



## **Electro-Optical Characteristics** (Ta=25 $^{\circ}$ C)

Parameter Symbol		Condition	Min.	Typ.	Max.	Units
Light Current	Ic(on)	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$	143		1274	$\mu$ A
Peak Wavelength	λр	I <sub>F</sub> =20mA		940		nm
Spectral Bandwidth	Δλ	I <sub>F</sub> =20mA		45		nm
Forward Voltage	$V_{\mathrm{F}}$	I <sub>F</sub> =20mA		1.2	1.5	V
Reverse Current	$I_R$	V <sub>R</sub> =5V			10	$\mu$ A
View Angle	2 \theta 1/2	I <sub>F</sub> =20mA		60		deg

### Rank

Color Code	Ranks	Symbol	Min	Тур	Max	Unit	Test Condition
Red	E1	Ic(on)	143		255	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
Blue	E2	Ic(on)	214		343	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
Yellow	E3	Ic(on)	286		431	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
Silver	E4	Ic(on)	357		519	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
Green	E5	Ic(on)	428		608	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
Purple	E6	Ic(on)	500		696	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
White	E7	Ic(on)	571		784	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$

Rough ranks

Parameter	Min	Max	Unit	Test Condition
7-2	306	441	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5V$
7-1	347	550	μΑ	I <sub>F</sub> =4mA,V <sub>CE</sub> =3.5V
6-2	465	750	$\mu$ A	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
6-1	650	1274	$\mu$ A	I <sub>F</sub> =4mA,V <sub>CE</sub> =3.5V

Everlight Electronics Co., Ltd.

Device No: CDIR-090-016

http:\\www.everlight.com Prepared date:2007/4/27 Rev: 1 Page: 3 of 7



### **Typical Electro-Optical Characteristics Curves**

Fig.1 Forward Current vs.

Ambient Temperature

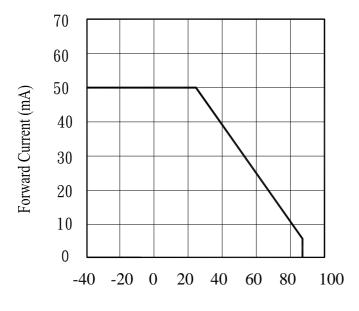


Fig.2 Spectral Distribution

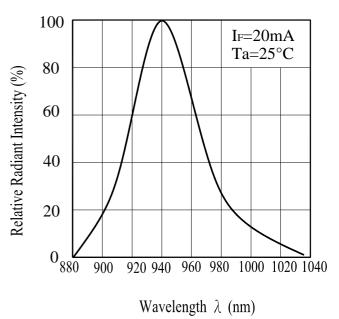


Fig.3 Peak Emission Wavelength Ambient Temperature

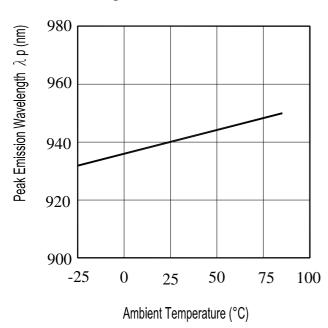
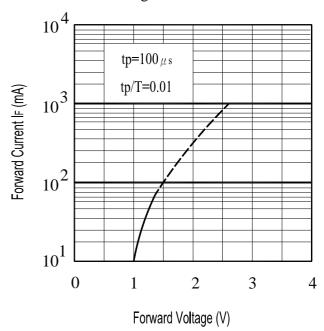


Fig.4 Forward Current vs. Forward Voltage



Everlight Electronics Co., Ltd. Device No: CDIR-090-016

http:\\www.everlight.com Prepared date:2007/4/27 Rev: 1

Page: 4 of 7



### **Typical Electro-Optical Characteristics Curves**

Fig.8 Forward Current vs.

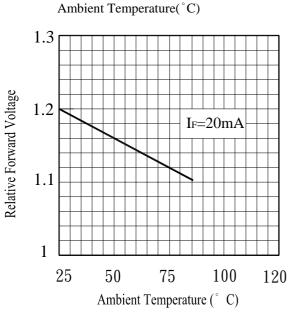
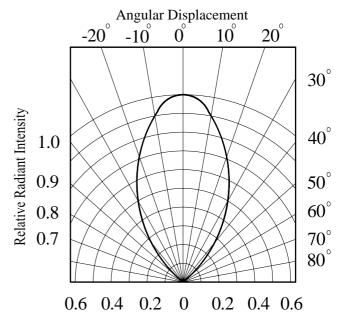


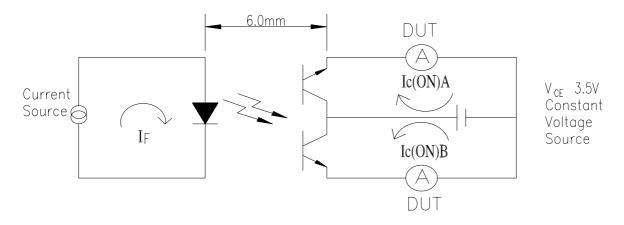
Fig.6 Relative Radiant Intensity vs.



## Test Method For I<sub>C(ON)</sub>:

Condition: I<sub>F</sub>=4mA,V<sub>CE</sub>=3.5V

The intensity testing method for infrared emitting diode



Everlight Electronics Co., Ltd. Device No: CDIR-090-016

http:\\www.everlight.com Prepared date:2007/4/27 Rev: 1

Page: 5 of 7



### **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/	Sample	Failure	Ac/Re
			Cycles	Sizes	Judgement	
					Criteria	
1	Solder Heat	TEMP. : 260°C±5°C	10secs	22pcs		0/1
2	Temperature Cycle	$H:+100^{\circ}C$ 15mins	300Cycles	22pcs		0/1
		5mins			Ee≦Lx0.8	
		L: -40°C 15mins			$V_F \leq U$	
3	Thermal Shock	H :+100°C <b>▲</b> 5mins	300Cycles	22pcs		0/1
		▼ 10secs			U: Upper	
		L:- $10^{\circ}$ C 5mins			Specification	
4	High Temperature	TEMP. ∶ +100°C	1000hrs	22pcs	Limit	0/1
	Storage				L: the initial test	
5	Low Temperature	TEMP. : -40°C	1000hrs	22pcs	value	0/1
	Storage					
6	DC Operating Life	I <sub>F</sub> =20mA	1000hrs	22pcs		0/1
7	High Temperature/	85°C / 85% R.H	1000hrs	22pcs		0/1
	High Humidity			_		

Everlight Electronics Co., Ltd. http://www.everlight.com Rev: 1 Page: 6 of 7

Device No: CDIR-090-016 Prepared date:2007/4/27 Prepared by: zhouhong



### **Packing Quantity Specification**

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

#### **Label Form Specification**

**EVERLIGHT** 

RoHS

REF:

CPN:

P/N: 

QTY: CAT: HUE:

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.
- 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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Everlight Electronics Co., Ltd. http://www.everlight.com Rev: 1 Page: 7 of 7

Device No: CDIR-090-016 Prepared date:2007/4/27 Prepared by: zhouhong