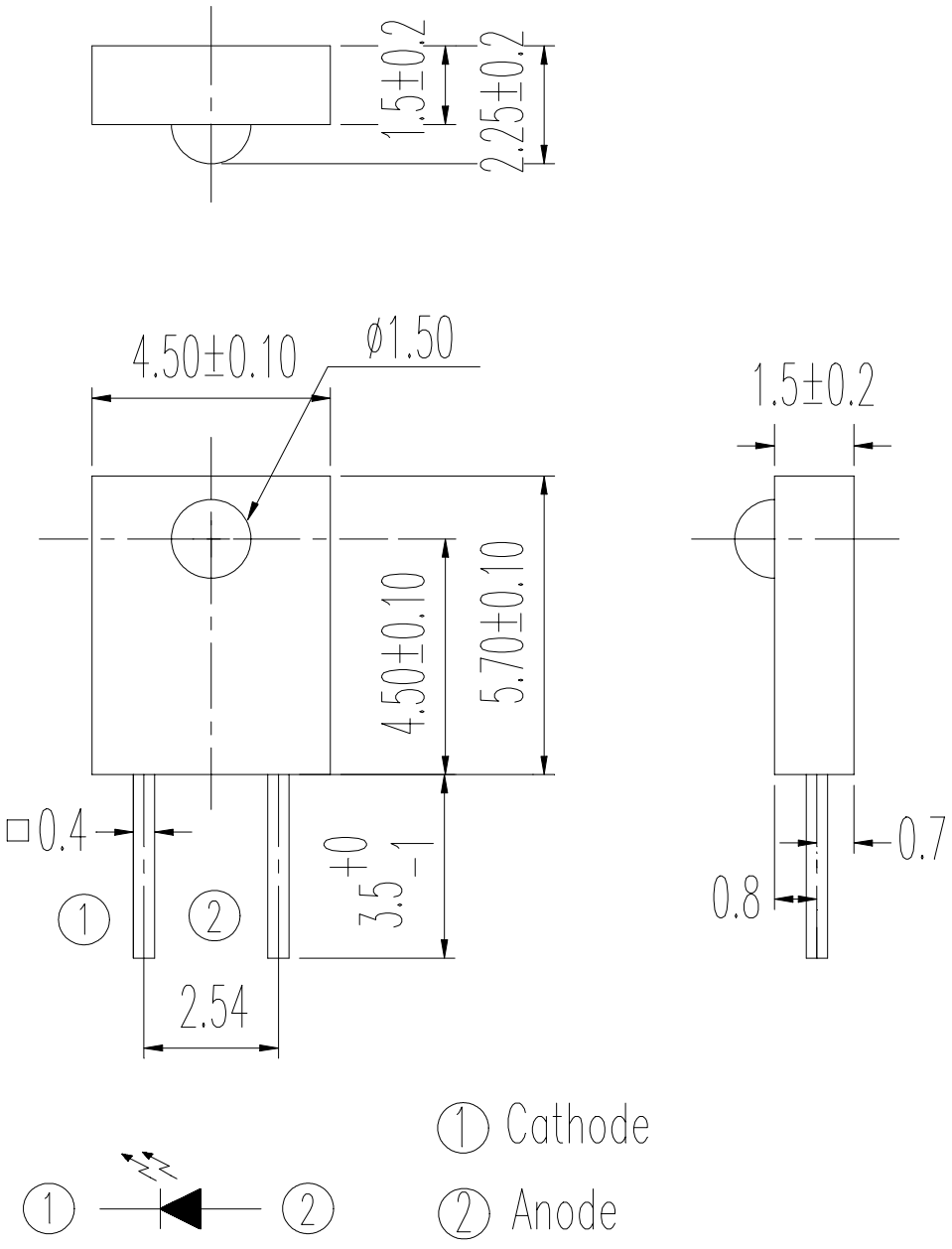
EVERLIGHT ELECTRONICS CO., LTD.

Device Number: DIR-090-120 REV: 1.0

MODEL NO: IR908-7C/F2 ECN: Page: 1/7

Package Dimensions:



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http: //www.everlight.com

◎**Notes**：

1.All dimensions are in millimeter.
2.Lead spacing is measured where the lead emerge from the package .
3.Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
4.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.
5.When using this product , please observe the absolute maximum ratings and the instructions for use 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.

Description

The **IR908-7C/F2** is a GaAs infrared emitting diode. The miniature side-facing device has a chip that emits radiation from the side of the clear package.

Features

- Low forward voltage
- Peak wavelength λp=940nm
- High reliability

Applications

- Mouse
- Optoelectronic Switch
- Photo Interrupter

Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Rating	Unit
Power Dissipation	P_D	75	mW
Reverse Voltage	V_R	5	V
Forward Current	I_F	50	mA
Peak Forward Current(*1)	I_{FP}	1	A
Operating Temperature	Topr	-25~+85	℃
Storage Temperature	Tstg	-40~+85	℃
Soldering Temperature (1/16 inch from body for 5 seconds)	Tsol	260	℃

(＊1) tw=100 μSEC., Duty cycle=1%

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Light Current	I_L	200	-	1030	μA	I_F=4mA,V_{CE}=3.5V
Peak Wavelength	λp	-	940	-	nm	I_F =20mA
Spectral Bandwidth	△λ	-	80	-	nm	I_F =20mA
View Angle	2θ1/2	-	± 30	-	Deg	I_F =20mA
Forward Voltage	V_F	-	1.2	1.6	V	I_F =20mA
Reverse Current	I_R	-	-	10	μA	V_R=5V

Typical Characteristics

Fig. 1 Forward Current vs. Ambient Temperature

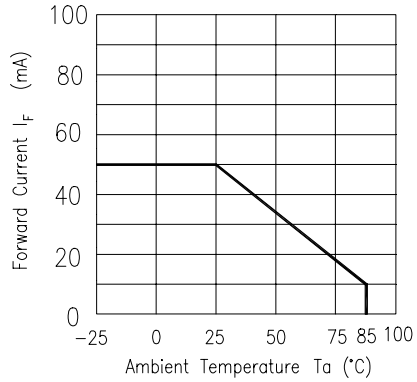


Fig. 2 Spectral Distribution

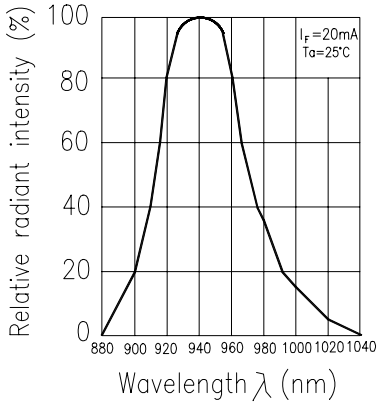


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

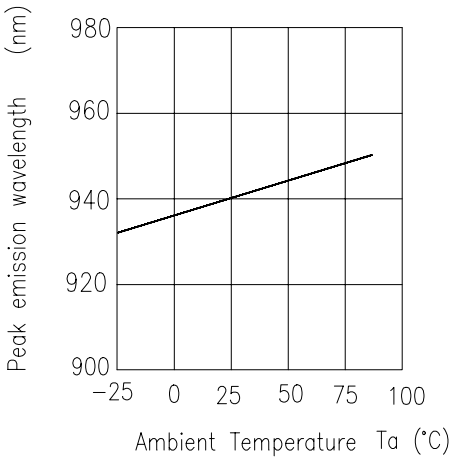


Fig. 4 Forward Current vs. Forward Voltage

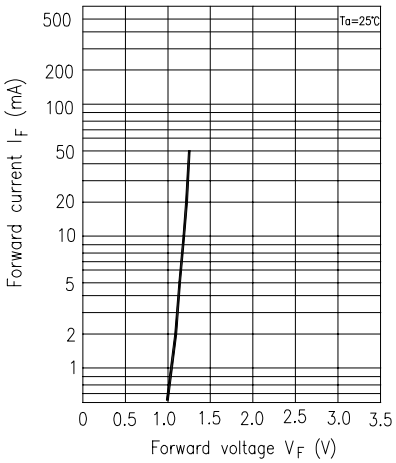


Fig. 5 Forward Voltage vs. Ambient Temperature

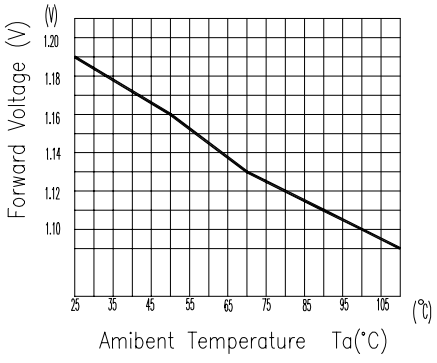
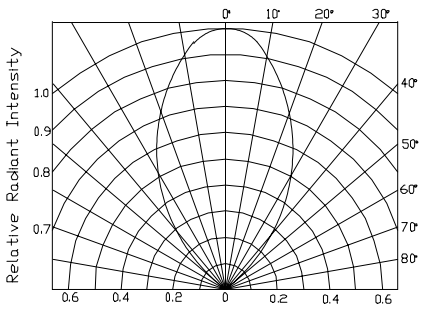
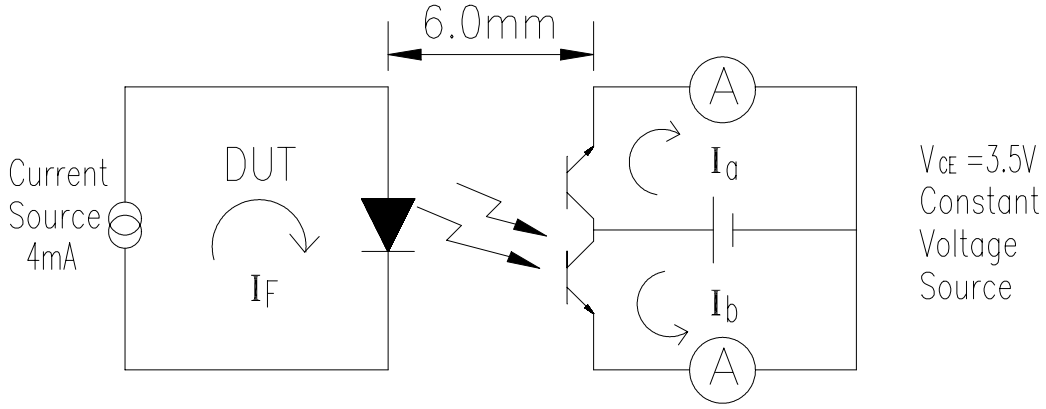


Fig. 6 Relative Radiant Intensity vs. Angular Displacement



Test Method

The intensity testing method of Infrared emitting diode:



Ranks

Color Code	Parameter	Symbol	Min	Max	Unit	Test Condition
Red	M1	Ic(on)	200	390	μA	I_F=4mA,V_{CE}=3.5V
Blue	M2	Ic(on)	270	470	μA	I_F=4mA,V_{CE}=3.5V
Yellow	M3	Ic(on)	340	550	μA	I_F=4mA,V_{CE}=3.5V
Silver	M4	Ic(on)	410	630	μA	I_F=4mA,V_{CE}=3.5V
Green	M5	Ic(on)	480	710	μA	I_F=4mA,V_{CE}=3.5V
Purple	M6	Ic(on)	550	790	μA	I_F=4mA,V_{CE}=3.5V
White	M7	Ic(on)	620	870	μA	I_F=4mA,V_{CE}=3.5V
Brown	M8	Ic(on)	690	950	μA	I_F=4mA,V_{CE}=3.5V
Orange	M9	Ic(on)	760	1030	μA	I_F=4mA,V_{CE}=3.5V

* Ic(on)=(Ia+Ib)/2

Supplement

1.Parts (1) Chip

Type	Material	Peak Wavelength
IR	GaAs	940

(2) Material

Type	Lead frame	Wire	Package
Material	SPCC	Gold	Epoxy

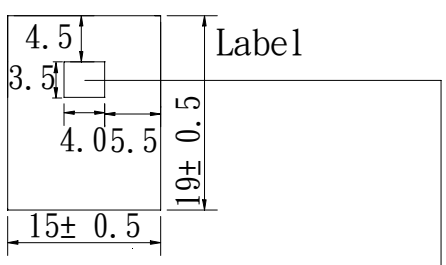
Reliability

The reliability of products shall be satisfied with items listed below.
Confidence level ：90%
LTPD：10%

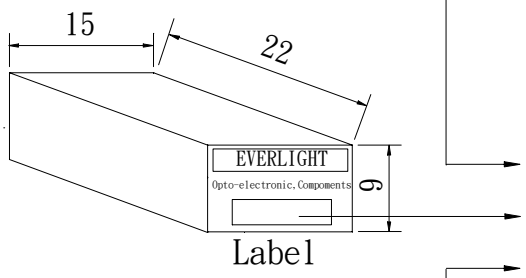
Test Items	Test Conditions	Failure Judgement Criteria	Samples(n) / Defective(c)
Operating life test	V_{CE}=5V Ta：25℃ 1000hrs	$I_{c(on)} \leqq$ L x 0.8 $V_F \geqq$ U x 1.2 $I_R \geqq$ U x 2 L：Lower specification limit U：Upper specification limit	n =22，c=0
Temperature cycle	1cycle –55℃to+25℃to +85℃ (30min) (5min) (30min) 50 cycle test		n =22，c=0
Thermal shock	-55℃ to + 85℃ (5min) (10 sec) (5min) 50cycle test		n =22，c=0
High temperature storage	Temp：+100℃ 1000hrs		n =22，c=0
Low temperature storage	Temp：-55℃ 1000hrs		n =22，c=0
High temperature High humidity	Ta：85℃ RH：85% 1000hrs		n =22，c=0
Solder heat	Temp：260 ± 5℃ 10 sec		n =22，c=0
Solderability	Temp：230 ± 5℃ 3 sec 4mm from the bottom of the package.	More than 90% of lead to be covered by soldering	n =22，c=0

Packing Specifications

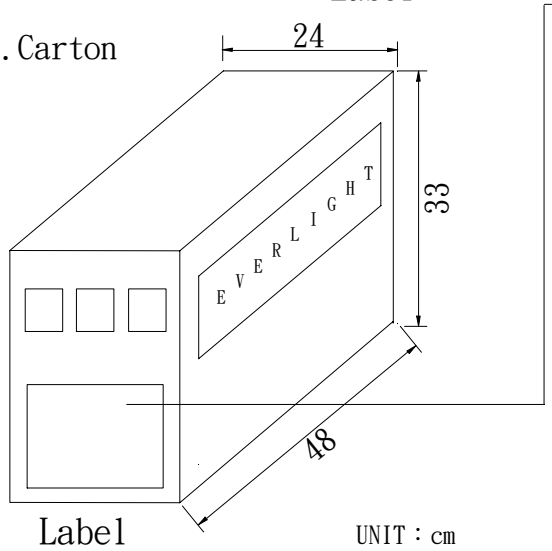
1. Bag



2. Box



3. Carton



CPN: Customer's product number
P/N: Product number
QTY: Packing quantity
CAT: Ranks
HUE: Peak wavelength
REF: Reference
LOT NO: Lot number
MADE IN TAIWAN: Production place

Packing Quantity Specification

1.1000Pcs/1bag，10bags/1box

2.10boxes/1Carton