



5mm Cylindrical Infrared LED, T-1 3/4

MODEL NO : IR423C/L10

■ Features :

- High radiant intensity
- Peak wavelength $\lambda_p=940\text{nm}$
- View angle 85°
- High reliability
- 2.54mm Lead spacing

■ Description :

- EVERLIGHT's Infrared Emitting Diode (IR423C/L10) is a high intensity diode, molded in a water clear plastic package.

The device is spectrally matched with phototransistor, photodiode and infrared receiver module.

■ Applications :

- Free air transmission system
- Optoelectronic switch
- Floppy disk drive
- Infrared applied system
- Smoke detector

PART NO.	CHIP	LENS COLOR
	MATERIAL	
IR	GaAlAs	Water clear



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■ Absolute Maximum Ratings at T_A = 25°C

Parameter	Symbol	Rating	Unit	Notice
Continuous Forward Current	I _F	50	mA	
Peak Forward Current Pulse width=100 μs, Duty cycle=1%	I _{FP}	1.0	A	
Reverse Voltage	V _R	5	V	
Operating Temperature	Topr	-40 ~ +85	°C	
Storage Temperature	Tstg	-40 ~ +85	°C	
Soldering Temperature	Tsol	260	°C	4mm from mold body less than 5 seconds
Power Dissipation at(or below) 25°C Free Air Temperature	Pd	100	mW	

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	Ee	1.15	2.0	----	mW/sr	I _F =20mA
		----	11	----		I _F =100mA, tp=100 μs, t _p /T=0.01
		----	110	----		I _F =1A, tp=100 μs, t _p /T=0.01
Peak Wavelength	λ _P	----	940	----	nm	I _F =20mA
Spectral Bandwidth	Δλ	----	45	----	nm	I _F =20mA
Forward Voltage	V _F	----	1.2	1.5	V	I _F =20mA
		----	1.4	1.85		I _F =100mA, tp=100 μs, t _p /T=0.01
		----	2.6	4.0		I _F =1A, tp=100 μs, t _p /T=0.01
Reverse Current	I _R	----	----	10	μA	V _R =5V
View Angle	2θ1/2	----	85	----	deg	I _F =20mA



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■ Typical Electrical/Optical/Characteristics Curves

Fig. 1 Forward Current vs. Ambient Temperature

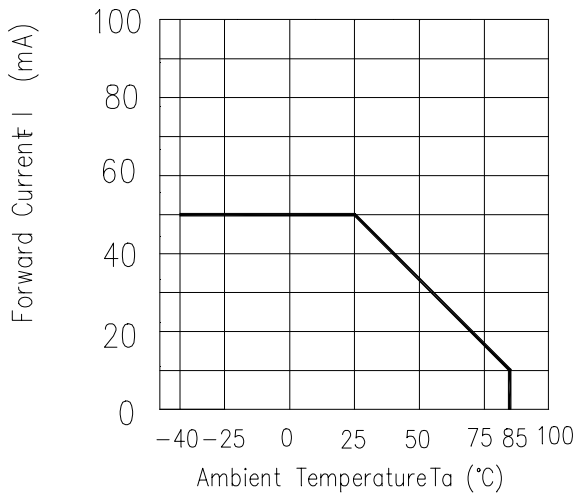


Fig. 2 Spectral Distribution

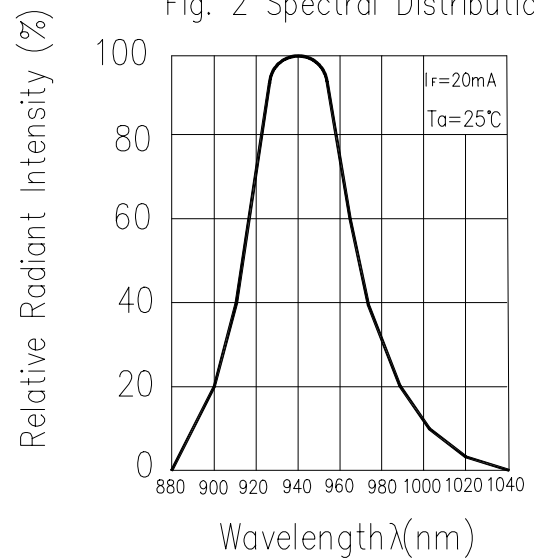


Fig. 3 Peak Emission Wavelength λ_p vs. Ambient Temperature

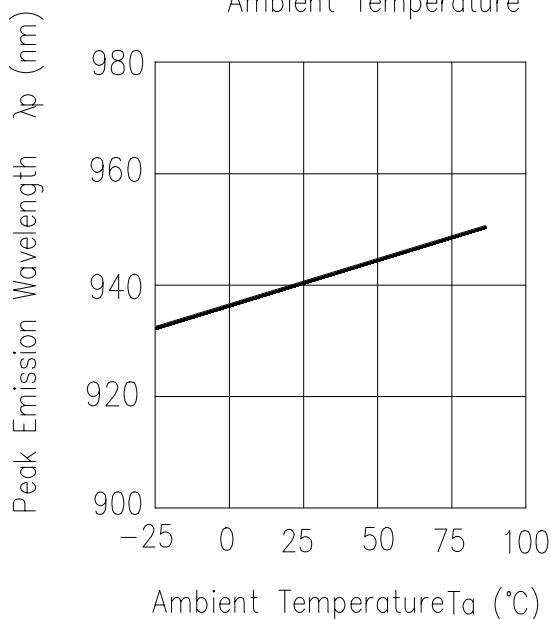
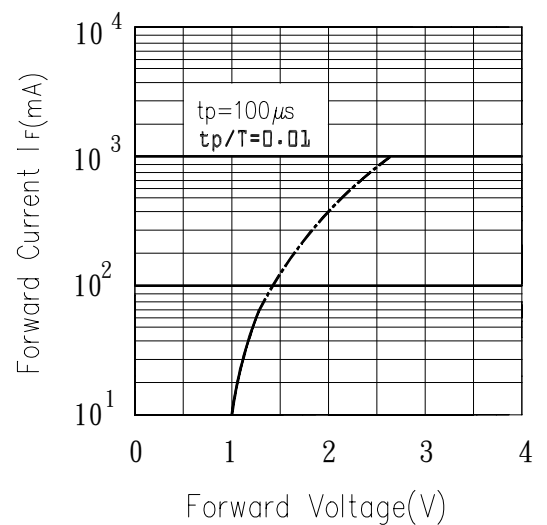


Fig. 4 Forward Current vs. Forward Voltage





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Fig. 5 Relative Intensity vs. Forward Current

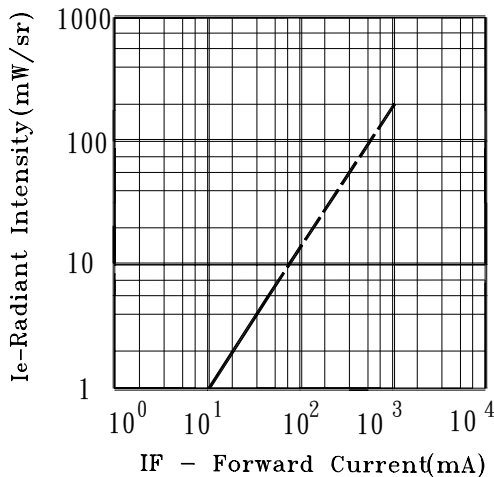


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

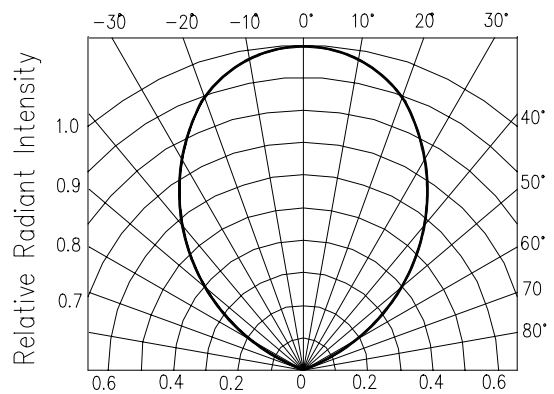


Fig. 7 Relative Intensity vs. Ambient Temperature (°C)

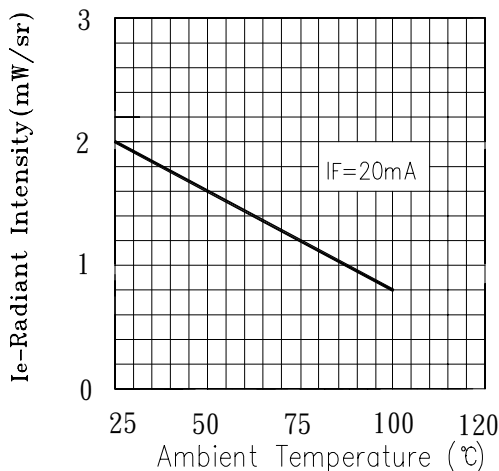
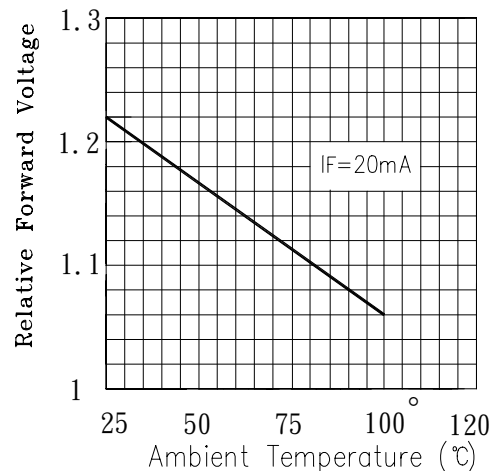


Fig. 8 Forward Current vs. Ambient Temperature (°C)





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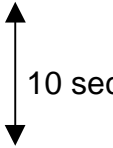
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■ Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level:90%

LTPD:10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Size	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 secs	22 pcs		0/1
2	Temperature Cycle	H : +85°C 30 mins  L : -55°C 30 mins	50 cycles	22 pcs	$I_R \geq U \times 2$ $E_e \leq L \times 0.8$ $V_F \geq U \times 1.2$	0/1
3	Thermal Shock	H : +100°C 5 mins  L : -10°C 5 mins	50 cycles	22 pcs	U :Upper specification limit L :Lower specification limit	0/1
4	High Temperature Storage	TEMP. : +100°C	1000 hrs	22 pcs		0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 hrs	22 pcs		0/1
6	DC Operating Life	$I_F = 20\text{mA}$	1000 hrs	22 pcs		0/1
7	High Temperature / High Humidity	85°C / 85% R.H.	1000 hrs	22 pcs		0/1



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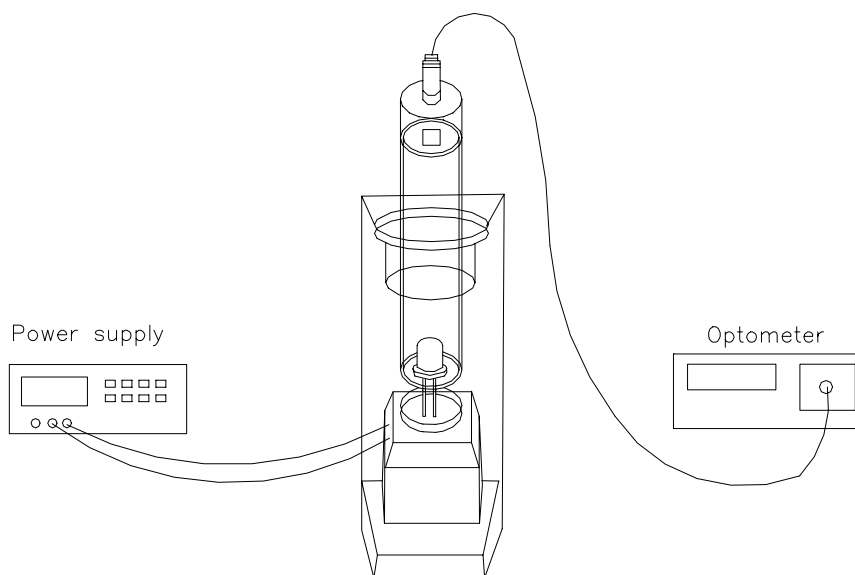
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■ Test Method For Power :

Condition : $I_F=20$ mA

Test Item : Radiant Intensity

Unit : mW/sr



■ To Distinguish Intensity:

Condition: $I_F=20$ mA

Unit : mW/sr

Bin Number	F	G	H
Min	1.15	1.40	2.00
Max	1.68	2.30	3.20



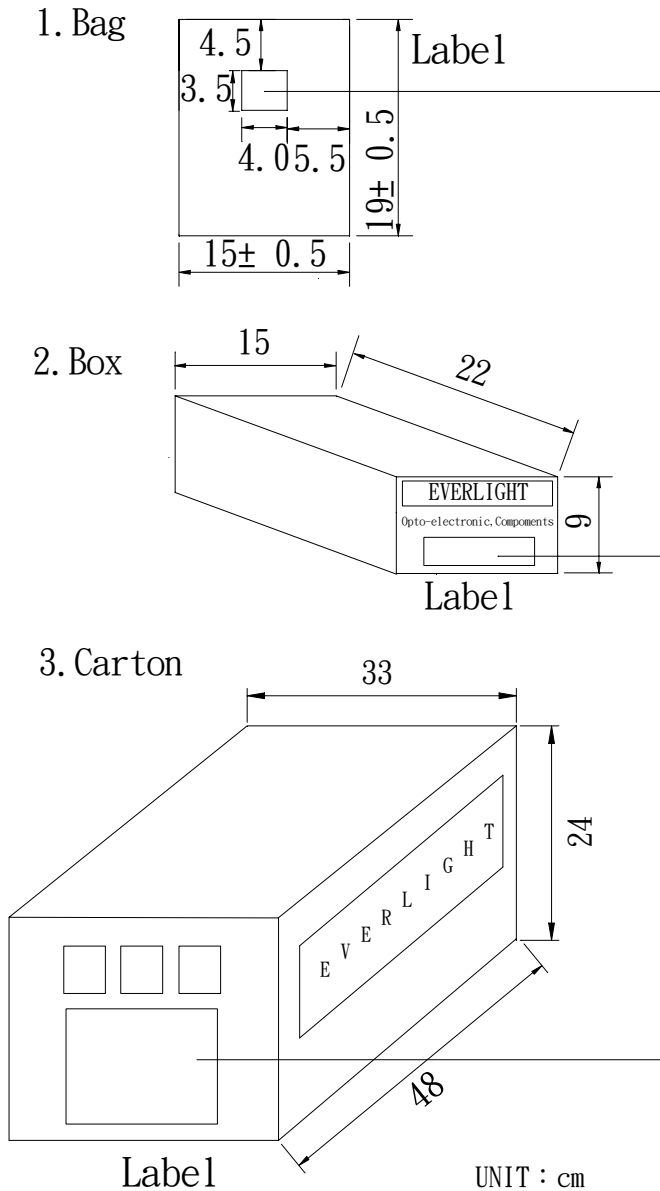
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■ Packing Specifications



CPN:

P/N:



IR423C/L10

QTY:

CAT:

HUE:

REF:

LOT NO:



MADE IN TAIWAN

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

■ Packing Quantity Specification

1. 500 Pcs/1Bag , 6 Bags/1Box

2. 10 Boxes/1Carton

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