



1.9mm Round Subminiature Infrared LED

MODEL NO : SIR91-21C/TR10

■ Features :

- Small double-end package
- Low forward voltage
- View angle 20°
- Peak wavelength $\lambda_p=875\text{nm}$
- High reliability

■ Description :

- SIR91-21C is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with spherical top view lens. The spectrally device is matched with silicon photodiode and phototransistor.

■ Applications :

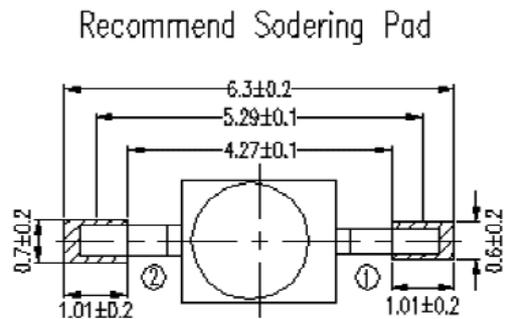
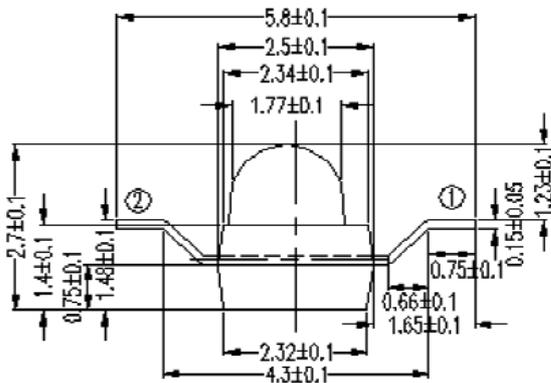
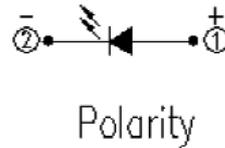
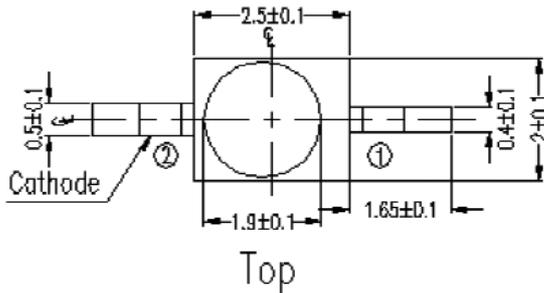
- Floppy disk drive
- Optoelectronic switch
- Smoke detector
- Camera
- VCR
- Video

PART NO.	CHIP	LENS COLOR
	MATERIAL	
SIR	GaAlAs	Water Clear

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Package Dimensions :



Notes

1) All dimensions are in millimeters

2) General Tolerance: $\pm 0.21\text{mm}$

3) LED color : Water clear

4) Above specifications may be changed without the notice of EVERLIGHT will reserve authority of material change for above specifications

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6) When using this product, please observe the absolute maximum ratings and the structural characteristics for use outlined in these specifications 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 structural characteristics included in these specifications sheets



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■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit	Notice
Continuous Forward Current	I_F	65	mA	
Peak Forward Current Pulse width=100 μ s,Duty cycle=1%	I_{FP}	1.0	A	
Reverse Voltage	V_R	5	V	
Operating Temperature	Topr	-25 ~ +85	°C	
Storage Temperature	Tstg	-40 ~ +85	°C	
Soldering Temperature	Tsol	260	°C	
Power Dissipation at(or below) 25°C Free Air Temperature	Pd	130	mW	

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	Ee	3.0	6.0	----	mW/sr	$I_F=20\text{mA}$
		----	20	----		$I_F=100\text{mA}, t_p=100 \mu\text{s}, t_p/T=0.01$
		----	200	----		$I_F=1\text{A}, t_p=100 \mu\text{s}, t_p/T=0.01$
Peak Wavelength	λ_p	----	875	----	nm	$I_F=20\text{mA}$
Spectral Bandwidth	$\Delta \lambda$	----	80	----	nm	$I_F=20\text{mA}$
Forward Voltage	V_F	----	1.3	1.6	V	$I_F=20\text{mA}$
		----	1.4	1.8		$I_F=100\text{mA}, t_p=100 \mu\text{s}, t_p/T=0.01$
		----	2.6	4.0		$I_F=1\text{A}, t_p=100 \mu\text{s}, t_p/T=0.01$
Reverse Current	I_R	----		10	μA	$V_R=5\text{V}$
View Angle	$2\theta_{1/2}$	----	20	----	deg	$I_F=20\text{mA}$

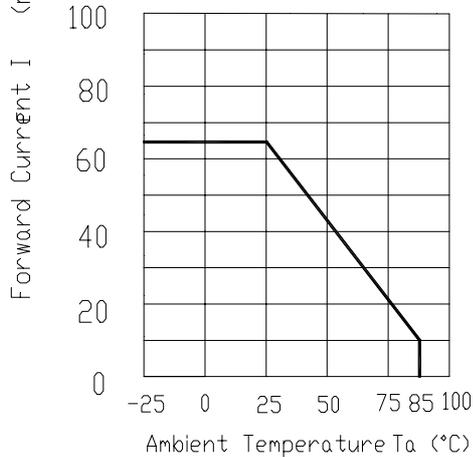


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■ Typical Electrical/Optical/Characteristics Curves

Fig. 1 Forward Current vs. Ambient Temperature



Relative Radiant Intensity (%)

Fig. 2 Spectral Distribution

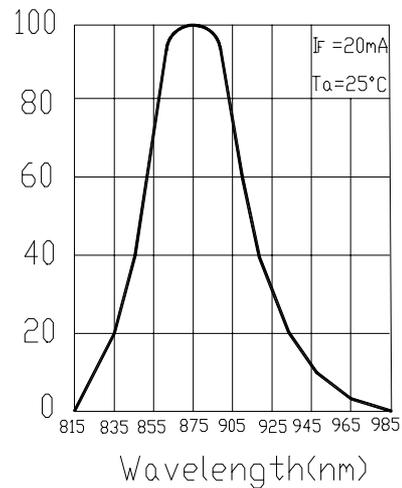


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

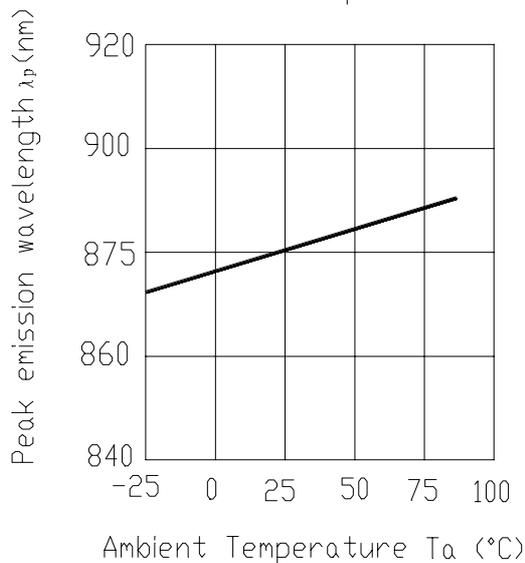
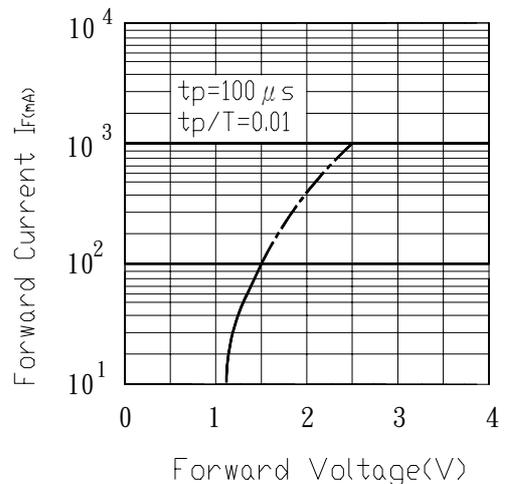


Fig. 4 Forward Current vs. Forward Voltage





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Fig. 5 Relative Intensity vs. Forward Current

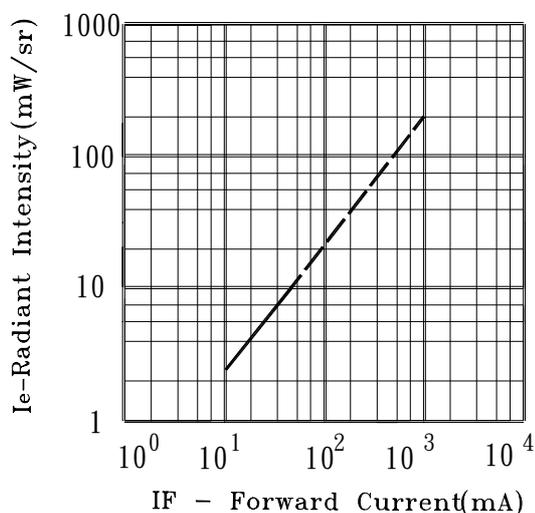


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

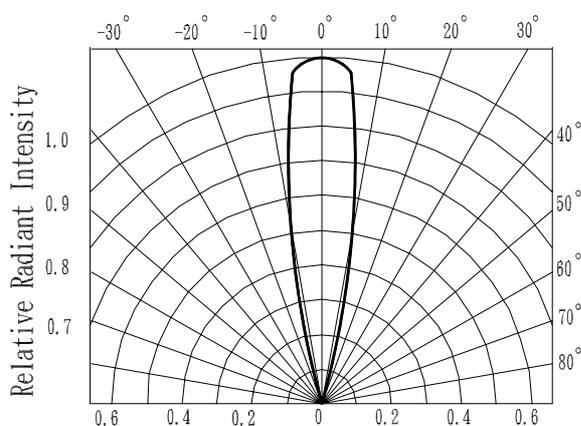


Fig. 7 Relative Intensity vs. Ambient Temperature (°C)

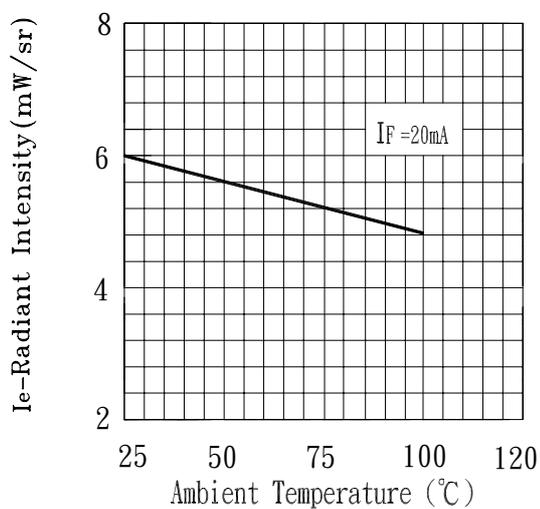
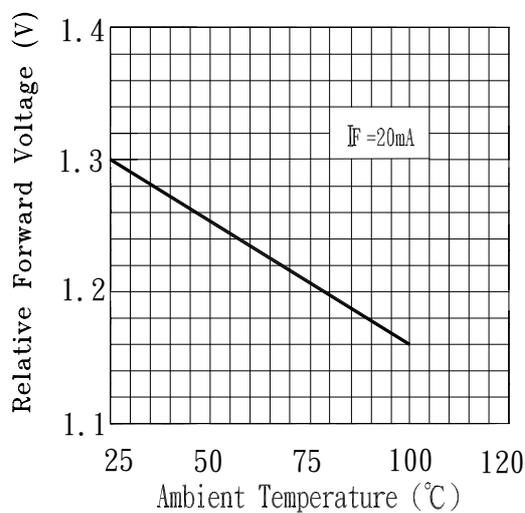


Fig. 8 Forward Current vs. Ambient Temperature (°C)





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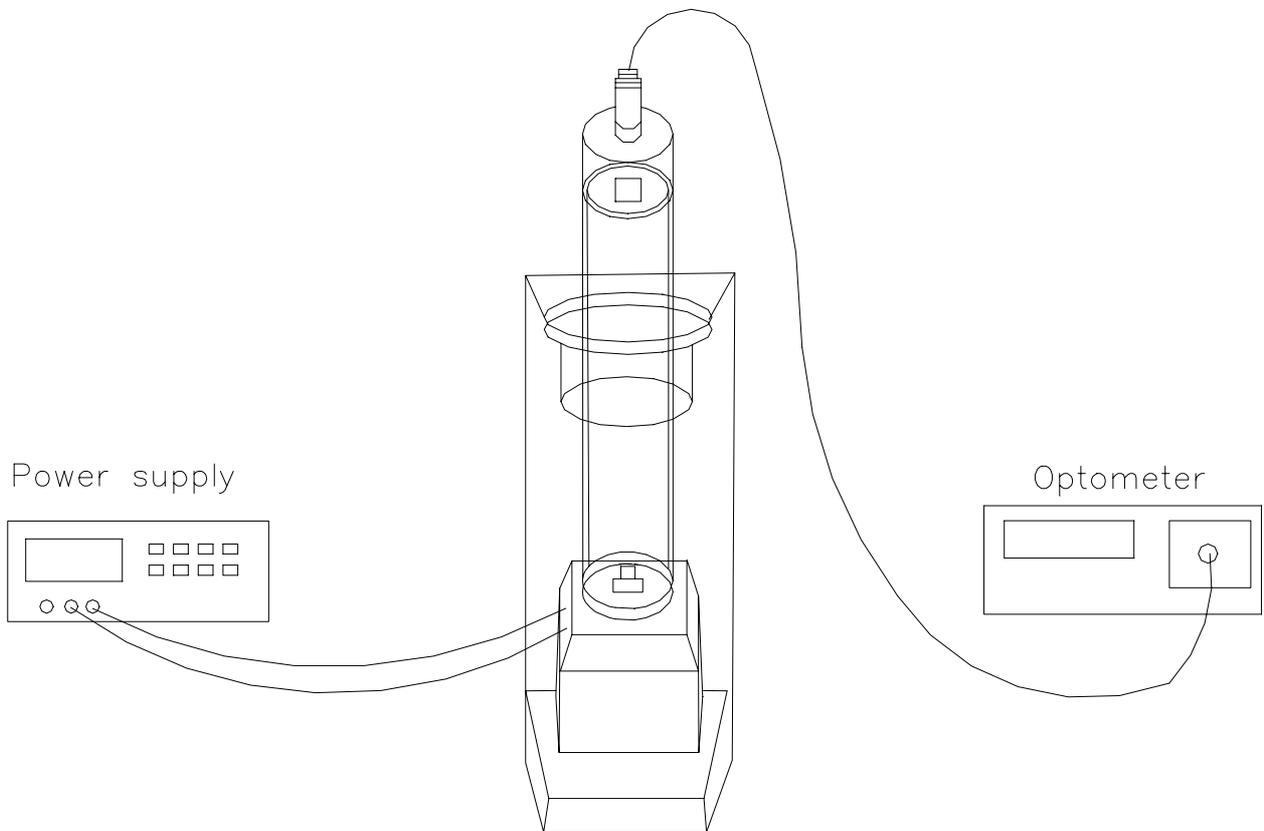
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■ **Test Method For Power :**

Condition : $I_F=20$ mA

Test Item : Radiant Intensity

Unit : mW/sr



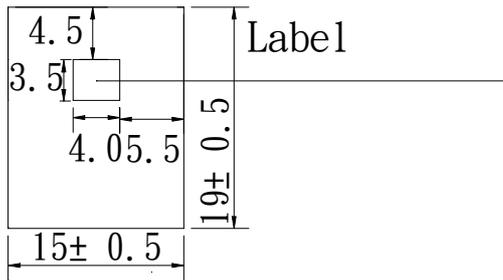


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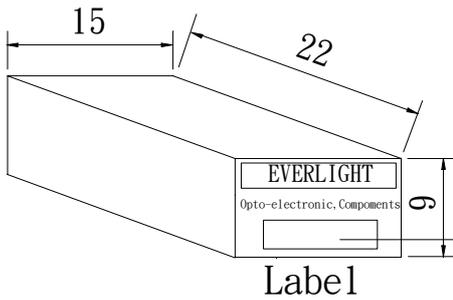
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■ Packing Specifications

1. Bag



2. Box



CPN:
P/N:



QTY:

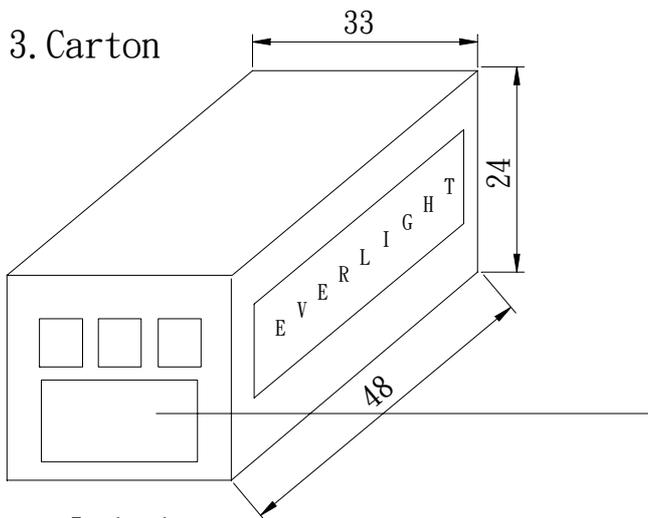
CAT:
HUE:
REF:



LOT NO:

MADE IN TAIWAN

3. Carton



Label

UNIT : cm

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

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