



## 1.9mm Round Subminiature Infrared LED

MODEL NO : IR91-21C/TR7

---

### ■ Features :

- Small double-end package
- Peak wavelength  $\lambda_p=940\text{nm}$
- View angle  $25^\circ$
- High reliability
- Low forward voltage

### ■ Description :

- IR91-21C/TR7 is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with spherical top view lens. The device is spectrally matched with silicon photodiode and phototransistor.

### ■ Applications :

- PCB mounted infrared sensor
- Infrared emitting for miniature light barrier
- Floppy disk drive
- Smoke detector
- Optoelectronic switch

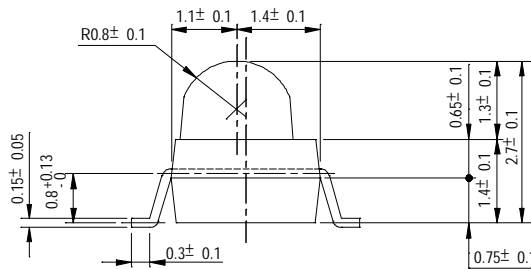
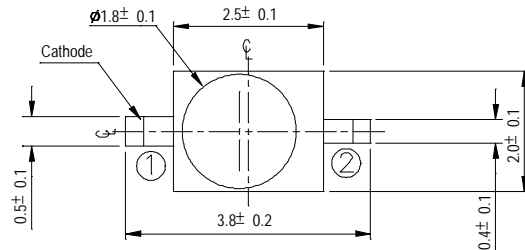
PART NO.	CHIP	LENS COLOR
	MATERIAL	
IR	GaAlAs	Water Clear

---

## 1.9mm Round Subminiature Infrared LED

MODEL NO : IR91-21C/TR7

### ■ Package Dimensions :



① Cathode



② Anode

### ■ Notes :

1. All dimensions are in millimeter.
2. General Tolerance:  $\pm 0.1\text{mm}$
3. Lens color : Water Clear.
4. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
5. 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.
6. 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.



# EVERLIGHT ELECTRONICS CO., LTD.

DEVICE NUMBER : DTR-091-005      REV : 1.3  
 ECN : \_\_\_\_\_      PAGE : 3/8

## 1.9mm Round Subminiature Infrared LED

MODEL NO : IR91-21C/TR7

### ■ 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 $\mu$ s, 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	
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	$E_e$	3.0	5.0	----	mW/sr	$I_F=20\text{mA}$
		----	25	----		$I_F=100\text{mA}, t_p=100 \mu\text{s}, t_p/T=0.01$
		----	250	----		$I_F=1\text{A}, t_p=100 \mu\text{s}, t_p/T=0.01$
Peak Wavelength	$\lambda_p$	----	940	----	nm	$I_F=20\text{mA}$
Spectral Bandwidth	$\Delta \lambda$	----	45	----	nm	$I_F=20\text{mA}$
Forward Voltage	$V_F$	----	1.2	1.5	V	$I_F=20\text{mA}$
		----	1.4	1.85		$I_F=100\text{mA}, t_p=100 \mu\text{s}, t_p/T=0.01$
		----	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	$\mu\text{A}$	$V_R=5\text{V}$
View Angle	$2\theta_{1/2}$	----	25	----	deg	$I_F=20\text{mA}$



## 1.9mm Round Subminiature Infrared LED

MODEL NO : IR91-21C/TR7

### ■ Typical Electrical/Optical/Characteristics Curves

Fig. 1 Forward Current vs. Ambient Temperature

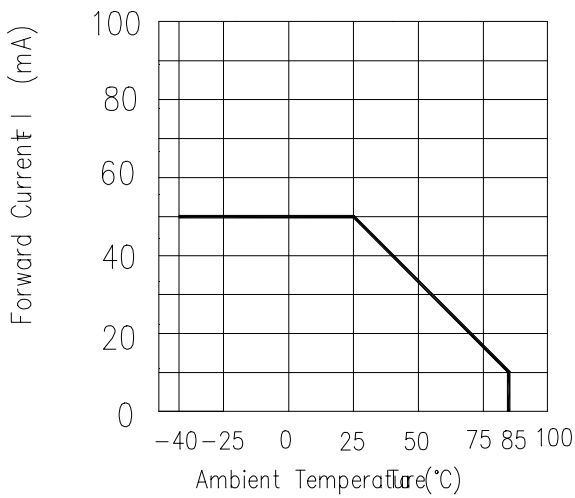


Fig. 2 Spectral Distribution

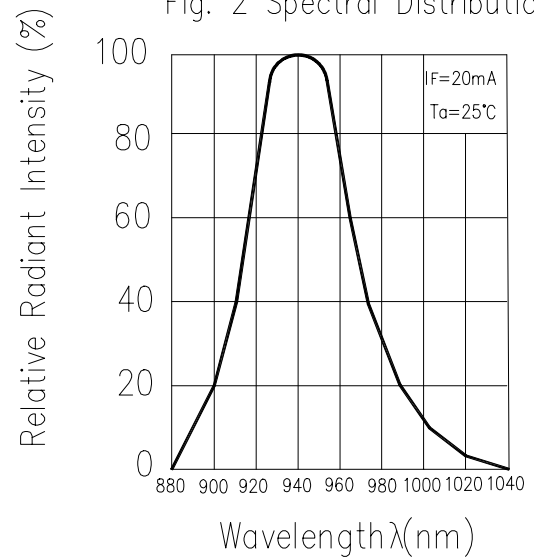


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

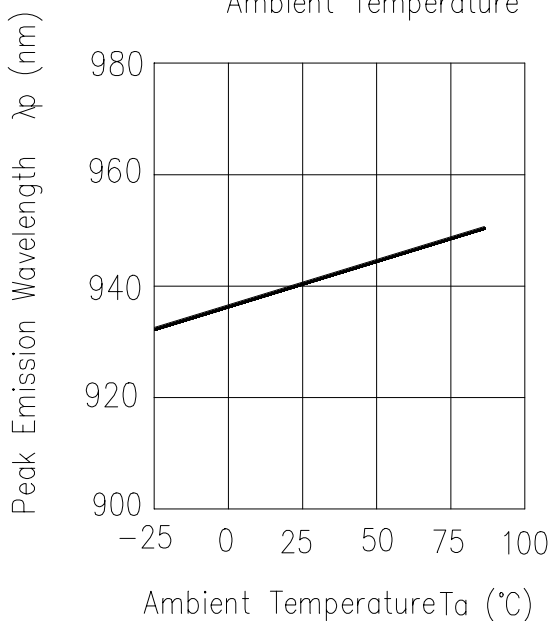
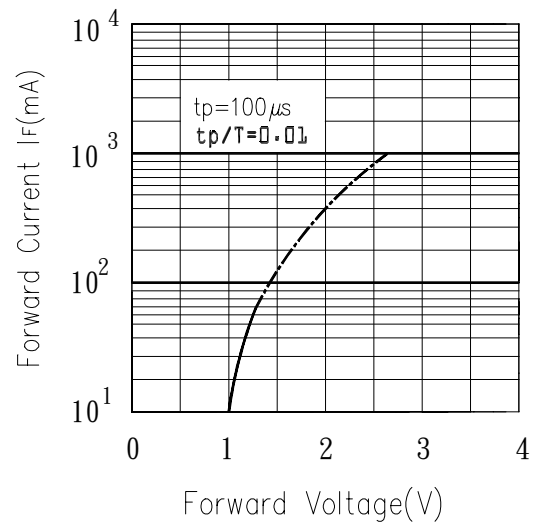


Fig. 4 Forward Current vs. Forward Voltage





# EVERLIGHT ELECTRONICS CO., LTD.

DEVICE NUMBER : DTR-091-005      REV : 1.3  
ECN : \_\_\_\_\_      PAGE : 5/8

## 1.9mm Round Subminiature Infrared LED

MODEL NO : IR91-21C/TR7

---

### ■ Typical Electrical/Optical/Characteristics Curves





**1.9mm Round Subminiature Infrared LED**

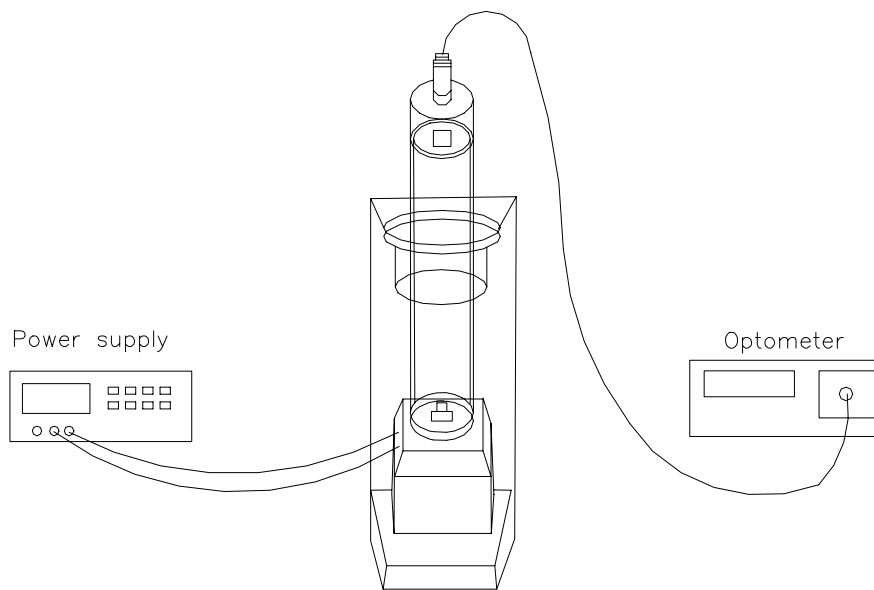
MODEL NO : IR91-21C/TR7

■ **Test Method For Power :**

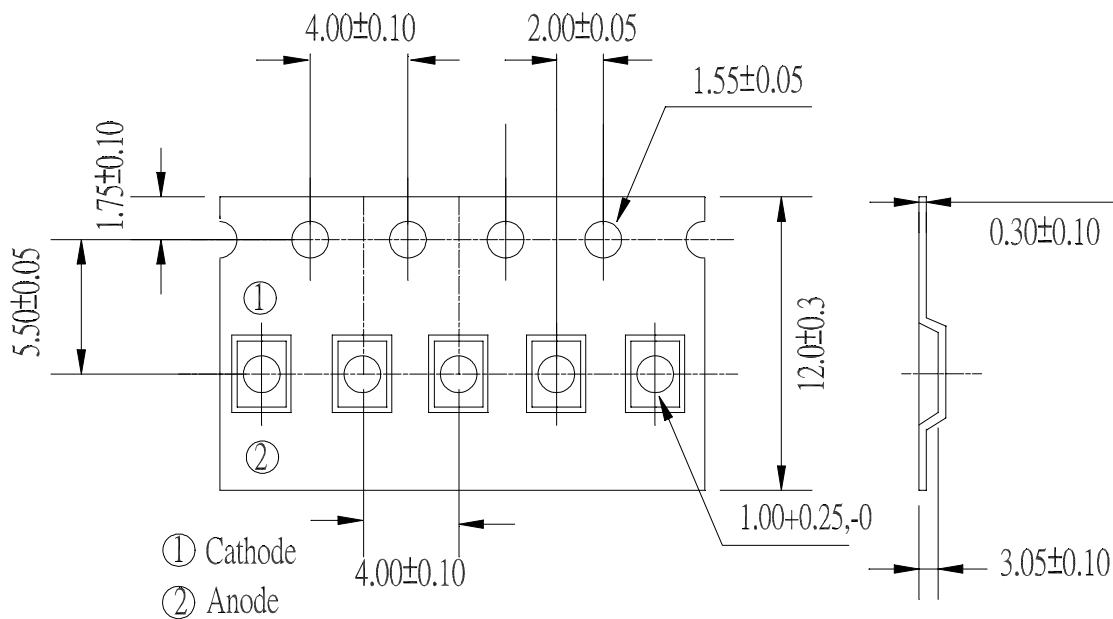
Condition :  $I_f=20$  mA

Test Item : Radiant Intensity

Unit : mW/sr



■ **Taping Dimensions:**

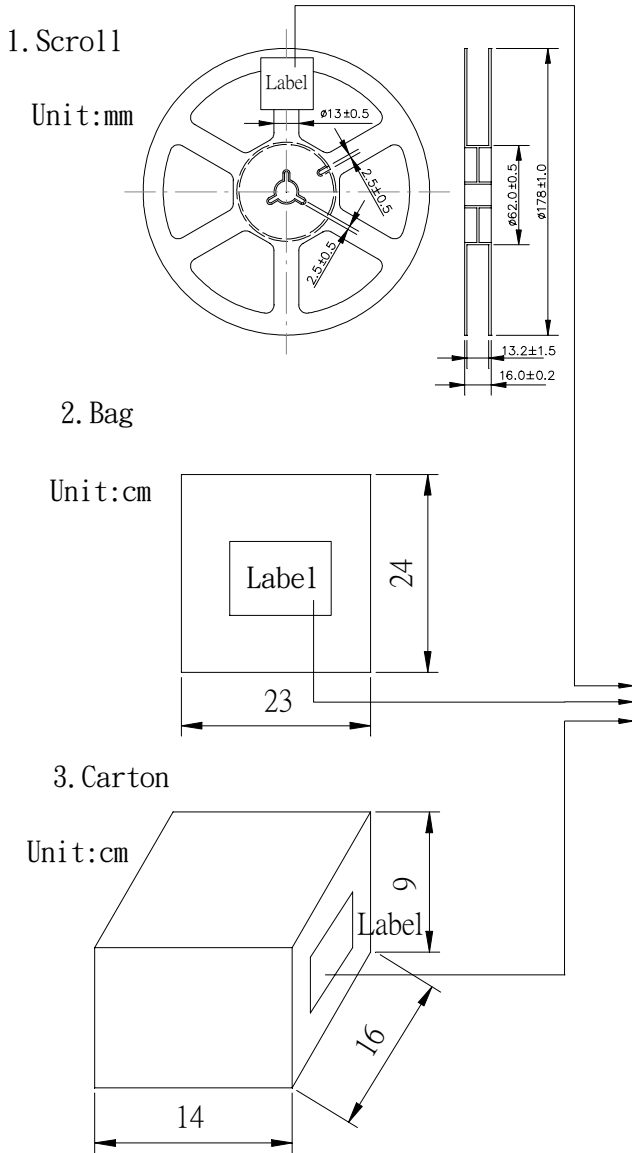




## 1.9mm Round Subminiature Infrared LED

MODEL NO : IR91-21C/TR7

### ■ Packing Specifications

**EVERLIGHT**

CPN:

P/N:

IR91-21C/TR7

QTY:

LOT NO:

CAT:

HUE:

REF:

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. 1000 Pcs/1 Volume , 1 Volume/1Bag

2. 10 Bags/1Carton