

DEVICE NUMBER :	DIS-033-002	REV:	1.3
FCN ·		PAGE ·	1/8

5mm Infrared LED,T-1 3/4

Features:

- High radiant intensity
- Peak wavelength λ p=875nm
- · View angle 20°
- High reliability
- · Low forward voltage
- Standard T-1 $^{3}/_{4}$ (ϕ 5mm) package

Description:

• EVERLIGHT's Infrared Emitting Diode (SIR333) is a high intensity diode, molded in a blue transparent plastic package.

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

Applications :

- Free air transmission system
- Optoelectronic switch
- Infrared remote control units with high power requirement
- Floppy disk drive
- · Infrared source for optical counter and card reader

PART NO.	CHIP	LENS COLOR
PART NO.	MATERIAL	LENS COLOR
SIR	GaAlAs	Blue

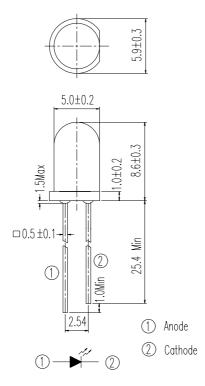


DEVICE NUMBER : <u>DIS-033-002</u> REV : <u>1.3</u> ECN : PAGE : 2/8

5mm Infrared LED,T-1 3/4

MODEL NO: SIR333

Package Dimensions:



Notes:

- 1.All dimensions are in millimeter.
- 2.General tolerance: ± 0.1mm.
- 3. Protruded resin under flange 1.5 mm Max.
- 4.Lead spacing is measured where the lead emerge from the package.
- 5.Lens color: . Blue transparent.
- 6.Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
- 7.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.
- 8. When using this product, please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERIGHT 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.



DEVICE NUMBER :	DIS-033-002	REV: _	1.3
FCN ·		PAGE ·	3/8

5mm Infrared LED,T-1 3/4

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■ Absolute Maximum Ratings at $T_A = 25^{\circ}$ C

Parameter	Symbol	Rating	Unit	Notice
Continuous Forward Current	I _F	100	mA	
Peak Forward Current Pulse width=100 μ s,Duty cycle=1%	I _{FP}	1.0	А	
Reverse Voltage	V_R	5	V	
Operating Temperature	Topr	-40 ~ +85	$^{\circ}\!\mathbb{C}$	
Storage Temperature	Tstg	-40 ~ +85	$^{\circ}\mathbb{C}$	
Soldering Temperature	Tsol	260	$^{\circ}$ C	4mm from mold body less than 5 seconds
Power Dissipation at(or below) 25°C Free Air Temperature	Pd	150	mW	

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
		7.8	20			I _F =20mA
Radiant Intensity	Ee		95		mW/sr	I_F =100mA,tp=100 μ s, t_P /T=0.01
			920			I _F =1A,tp=100 μ s, t _P /T=0.01
Peak Wavelength	λ _P		875		nm	I _F =20mA
Spectral	Δλ		80		nm	I _F =20mA
Bandwidth						
			1.3	1.6		I _F =20mA
Forward Voltage	V_{F}		1.4	1.8	V	I_F =100mA,tp=100 μ s, t_P /T=0.01
			2.6	4.0		I _F =1A,tp=100 μ s, t _P /T=0.01
Reverse Current	I _R			10	μ A	V _R =5V
View Angle	2⊖1/2		20		deg	I _F =20mA



DEVICE NUMBER: <u>DIS-033-002</u> REV: <u>1.3</u> PAGE: 4/8 ECN:

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MODEL NO: **SIR333**

Typical Electrical/Optical/Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

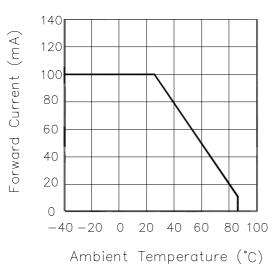


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

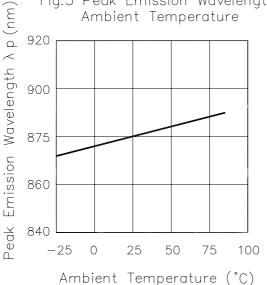


Fig.2 Spectral Distribution

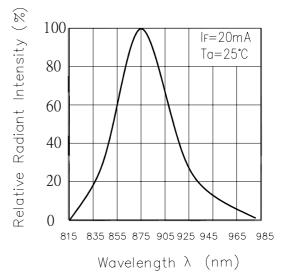
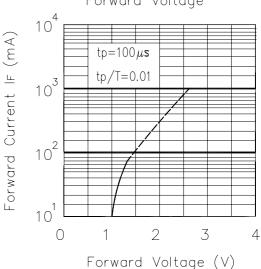


Fig.4 Forward Current vs. Forward Voltage





DEVICE NUMBER : <u>DIS-033-002</u> REV : <u>1.3</u> ECN : _____ PAGE : <u>5/8</u>

5mm Infrared LED,T-1 3/4

MODEL NO: SIR333

■ Typical Electrical/Optical/Characteristics Curves

Fig. 5 Relative Intensity vs. Forward Current

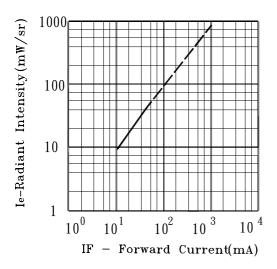


Fig. 6 Relative Radiant Intensity vs.

Angular Displacement

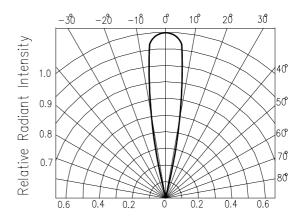


Fig. 7 Relative Intensity vs.

Ambient Temperature (℃)

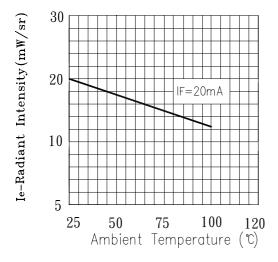
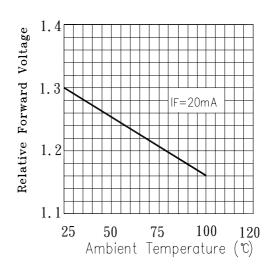


Fig. 8 Forward Current vs.

Ambient Temperature (°C)





DEVICE NUMBER:	DIS-033-002	REV:	1.3
FCN:		PAGE ·	6/8

5mm Infrared LED,T-1 3/4

■ Reliability Test Item And Condition

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

LTPD:10%

NO.	LIPD:10%	Took Conditions	Tool	Cample	Failure	Ac/Re
NO.	ltem	Test Conditions	Test Hours/ Cycles	Sample Sizes	Judgement Criteria	AC/Re
1	Solder Heat	TEMP: 260° C ± 5 $^{\circ}$ C	10 secs	22 pcs		0/1
2	Temperature Cycle	H: +85°C 30 mins 5 mins L: -55°C 30 mins	50 cycles	22 pcs	I _R ≧Ux 2 Ee≦Lx 0.8 V _F ≧Ux 1.2	0/1
3	Thermal Shock	H:+100°C 5 mins 10 secs 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 =20mA	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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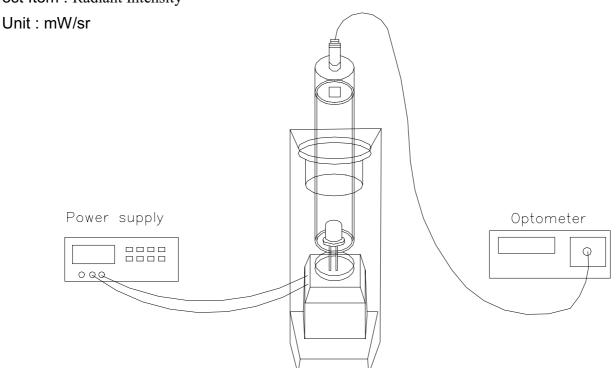
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Test Method For Power :

Condition : $I_F=20 \text{ mA}$

Test Item: Radiant Intensity



■ To Distinguish Intensity

(Ta=25°C)

Unit: mW/sr

Condition : $I_F = 20 \text{m A}$

Bin Number	M	N	Р	Q
Min	7.8	11.0	15.0	21.0
Max	12.5	17.6	24.0	34.0

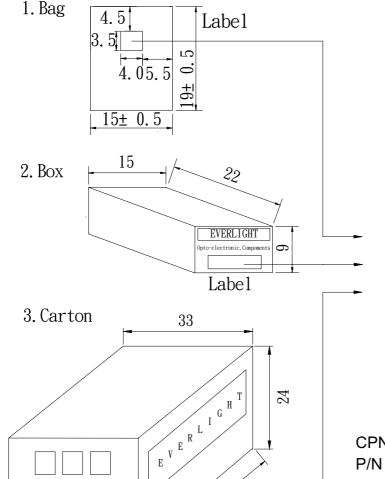


DEVICE NUMBER: <u>DIS-033-002</u> REV: <u>1.3</u> PAGE: 8/8 ECN:

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Packing Specifications



B

UNIT: cm

EVERLIGHT

CPN: P/N:



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. 500Pcs/1Bag , 6 Bags/1Box
- 2. 10 Boxes/1Carton

Label