Sidelooker Infrared LED

KEL-370C

Features

Low forward voltage

Peak wavelength λp=940nm

High reliability

This product itself will remain within RoHS compliant version.

Application

VCR

Floppy disk drive

Automatic stroboscope

Cassette type recorder

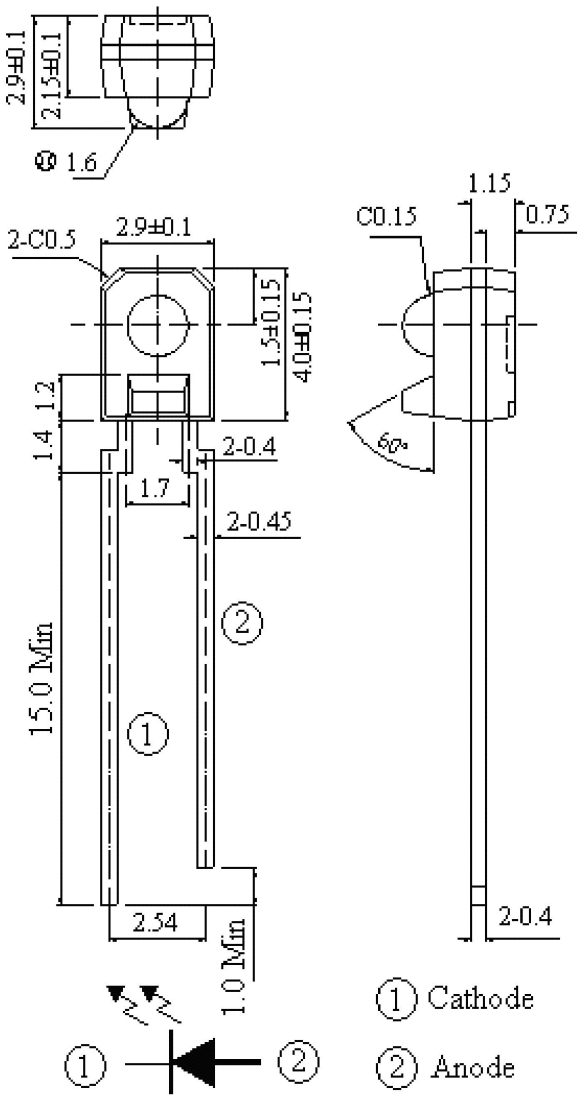
Optoelectronic switch

Photo interrupter

Description

The IR968-8C is a GaAlAs infrared emitting diode. The miniature side-facing device is a chip that emits radiation from the side of the clear package.

PACKAGE DIMENSIONS



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm(.010") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.

ABSOLUTE MAXIMUM RATINGS AT TA =25℃

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	50	mA
Peak Forward Current(*1)	I_{FP}	500	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature	T_{sol}	260	℃
Power Dissipation at (or below) 25℃Free Air Temperature	P_d	75	mW

Notes: *1 Soldering time≦5 seconds

ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25℃

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Collector Current	Ic(on)	465	-	1274	μA	I_F=4mA,V_{CE}=3.5V
Peak Wavelength	λp	-	940	-	nm	I_F =20mA
Spectral Bandwidth	△λ	-	45	-	nm	I_F =20mA
View Angle	2θ1/2	-	25	-	Deg	I_F =20mA
Forward Voltage	V_F	-	1.2	1.5	V	I_F =20mA
Reverse Current	I_R	-	-	10	μA	V_R=5V

Rank

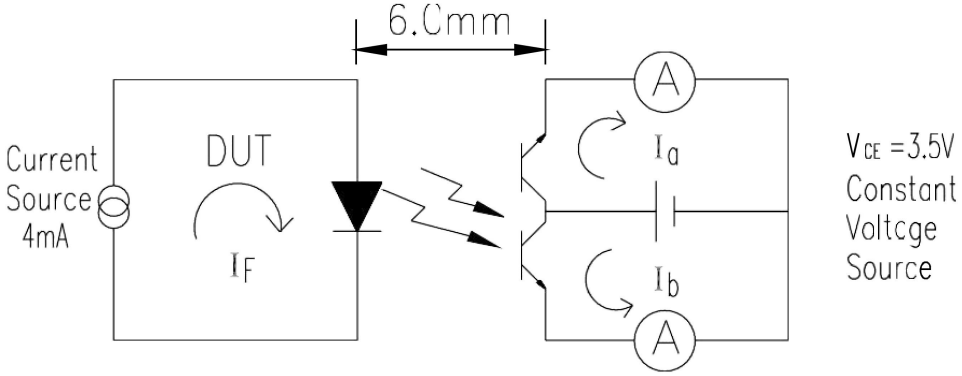
Unit：μA

Parameter	Symbol	Min	Max	Unit	Test Condition
A	Ic(ON)	650	1274	μA	I_F=4mA,V_{CE}=3.5V
B	Ic(ON)	465	750	μA	I_F=4mA,V_{CE}=3.5V

Test Method For $I_{C(ON)}$:

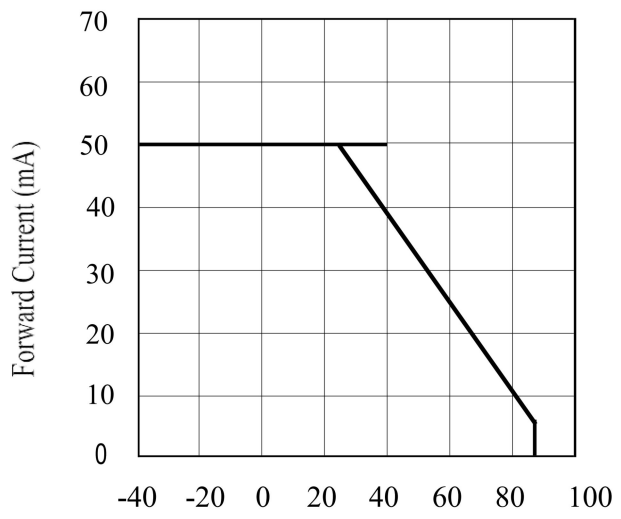
Condition: I_F=4mA,V_{CE}=3.5V

The intensity testing method of Infrared emitting diode:

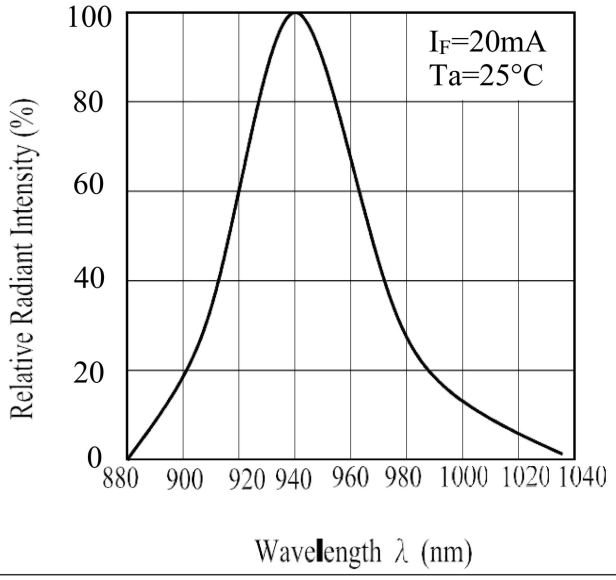


Typical Electro-Optical Characteristics Curves

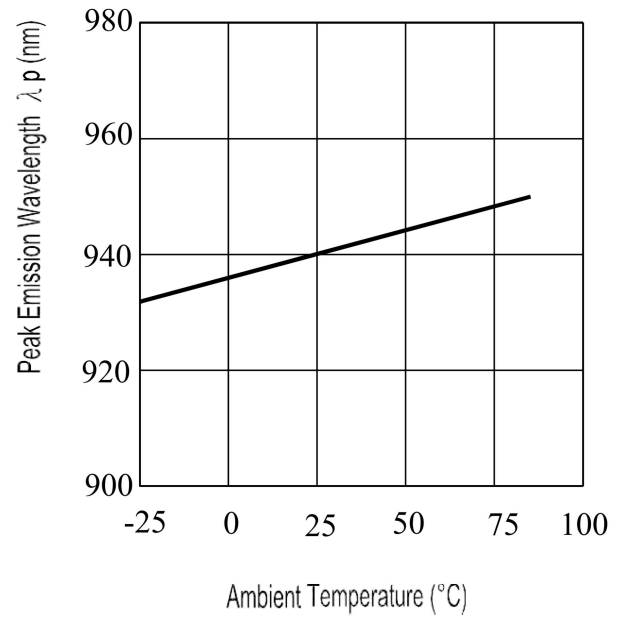
Forward Current vs. Ambient Temperature



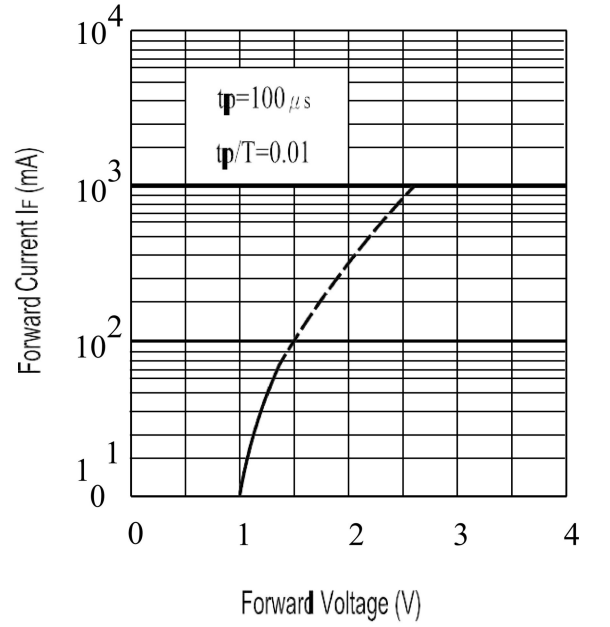
Spectral Distribution

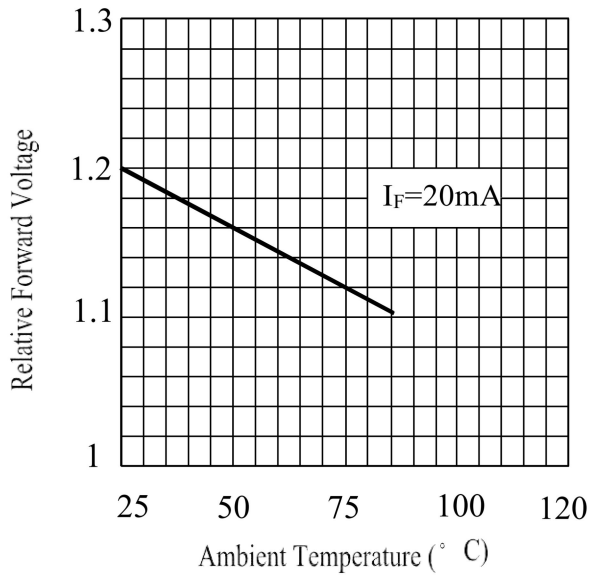
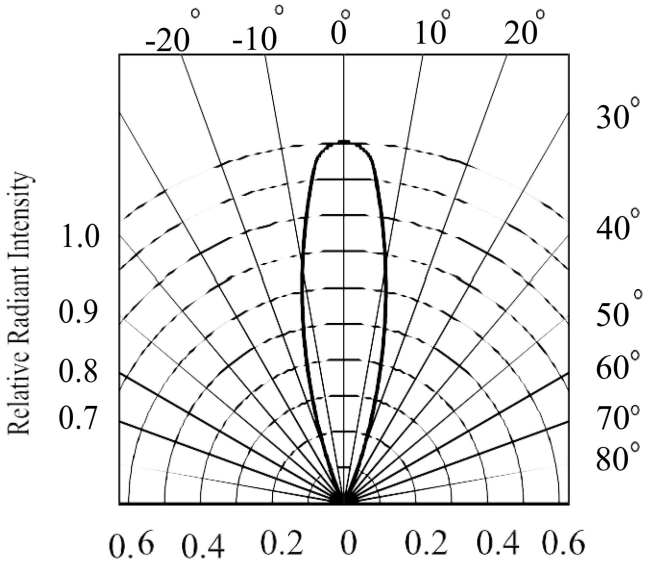


Peak Emission Wavelength vs. Ambient Temperature



Forward Current vs. Forward Voltage



Forward Current vs. Ambient Temperature	Relative Radiant Intensity vs. Angular Displacement
	

Packing Quantity Specification

1. 1000Pcs/1Bag, 20 Bag/1Box

2. 4Boxes/1Carton

Label Form Specification

- PRODUCT: Part Number
- CODE NO.: Product Serial Number
- QTY: Packing Quantity
- LOT No: Lot Number
- REMARKS:Remarks

Notes

Lead Forming

1.During lead formation, the leads should be bent at a point at least 3mm from the base of the epoxy bulb.

2.Lead forming should be done before soldering.

3.Avoid stressing the LED package during leads forming. The stress to the base may damage the LED's characteristics or it may break the LEDs.

4.Cut the LED lead frames at room temperature. Cutting the lead frames at high temperatures may cause failure of the LEDs.

5.When mounting the LEDs onto a PCB, the PCB holes must be aligned exactly with the lead position of the LED. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.

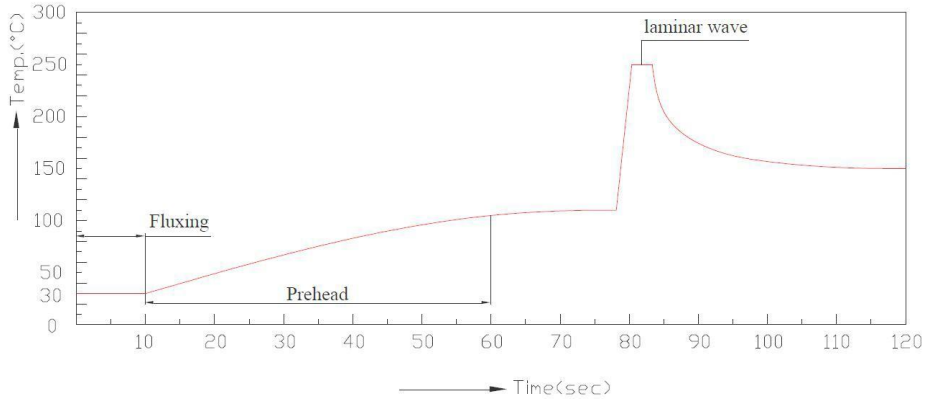
Soldering

1. Careful attention should be paid during soldering. When soldering, leave more than 3mm from solder joint to epoxy bulb, and soldering beyond the base of the tie bar is recommended.

2. Recommended soldering conditions:

Hand Soldering		DIP Soldering	
Temp. at tip of iron	300℃ Max. (30W Max.)	Preheat temp.	100℃ Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp. & time	260 Max., 5 sec Max
Distance	3mm Min.(From solder joint to epoxy bulb)	Distance	3mm Min. (From solder joint to epoxy bulb)

3. Recommended soldering profile



4.Avoiding applying any stress to the lead frame while the LEDs are at high temperature particularly when soldering.

5.Dip and hand soldering should not be done more than one time

6.After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.

7.A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

8.Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the LEDs.

9.Wave soldering parameter must be set and maintain according to recommended temperature and dwell time in the solder wave.

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