

5mm Housing LED Infrared Emitting
Diode
Technical Data Sheet

Part No.: DL-H503IRC-4IR

Double Light

◆ Features:

1. High radiant power and high radiant intensity.
2. Flangeless T-1 package.
3. Peak wavelength $\lambda_p=940\text{nm}$.
4. Good spectral matching to si-photodetector.
5. Radiant angle: 20 Deg
6. Lens Appearance: Water Clear.
7. This product doesn't contain restriction substance, comply RoHS standard

◆ Descriptions:

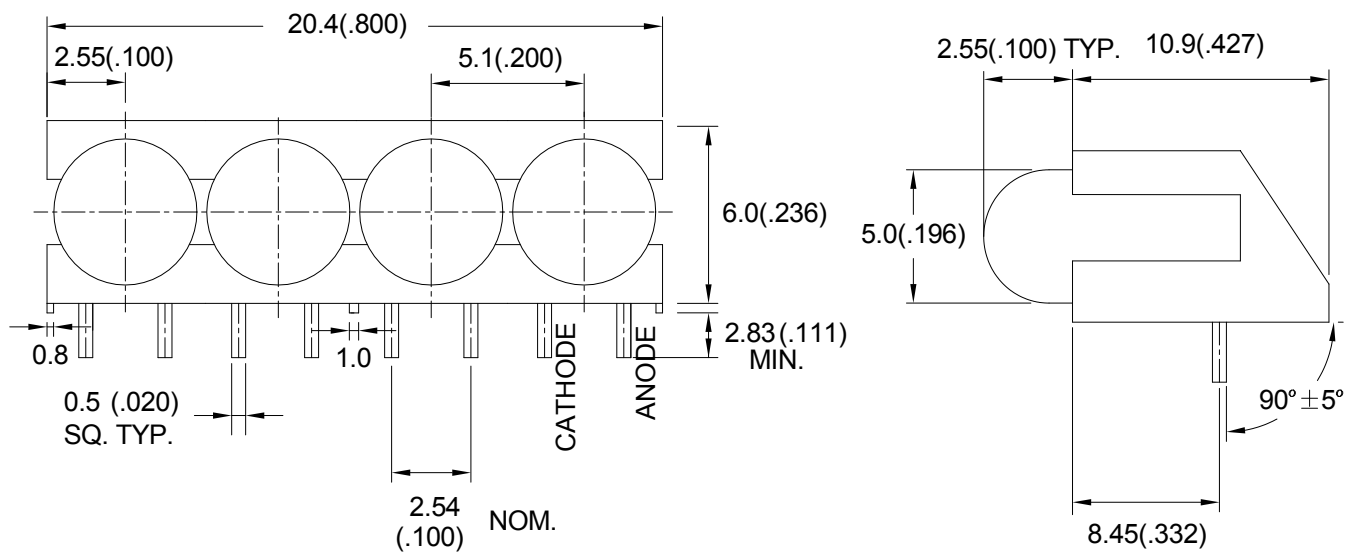
1. The DL-H503IRC is a GaAlAs (GaAs) infrared emitting diode. The miniature side-facing device has a chip that emits radiation from the side of the water clear package.
2. IR730C is a super high output power GaAlAs infrared light emitting diode, mounted in a clear epoxy end looking package. It emits narrow band of radiation peaking at 940nm

◆ Applications:

1. Mouse.
2. Optoelectronic switch.
3. Photo interrupter.
4. Remote Control.
5. Automatic Control System.

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◆ Package Dimension:



Part No.	Chip Material	Lens Color	Source Color
DL-H503IRC-4IR	GaAlAs/GaAs	Water Clear	Infrared

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise specified.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

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◆ Absolute Maximum Ratings at Ta=25°C

Parameters	Symbol	Max.	Unit
Power Dissipation	PD	150	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	1.00	A
Forward Current	IF	100	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	-40°C to +80°C	
Storage Temperature Range	Tstg	-40°C to +85°C	
Soldering Temperature [4mm (.157") From Body]	Tsld	260°C for 5 Seconds	

◆ Electrical Optical Characteristics at Ta=25°C

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Radiant Intensity	Ee	---	45	---	mW/sr	IF=20mA
Viewing Angle*	$2\theta_{1/2}$	---	20	---	Deg	(Note 1)
Peak Emission Wavelength	λ_p	---	940	---	nm	IF=20mA
Spectral Bandwidth	$\Delta\lambda$	---	50	---	nm	IF=20mA
Forward Voltage	VF	---	1.20	1.40	V	IF=20mA
Reverse Current	IR	---	---	10	μ A	VR=5V

Notes:

1. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

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◆ Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Spectral Distribution

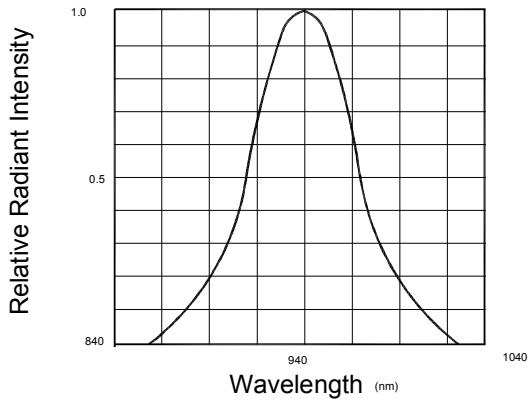


Fig.2 Forward Current Vs Ambient Temperature

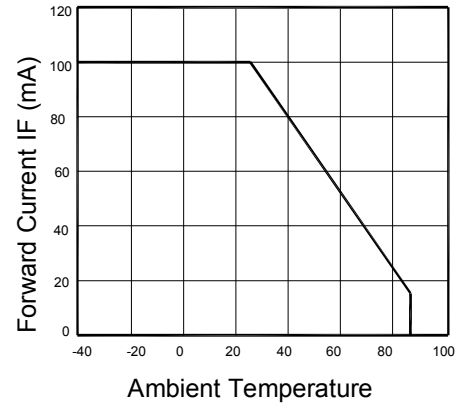


Fig.3 Forward Current Vs

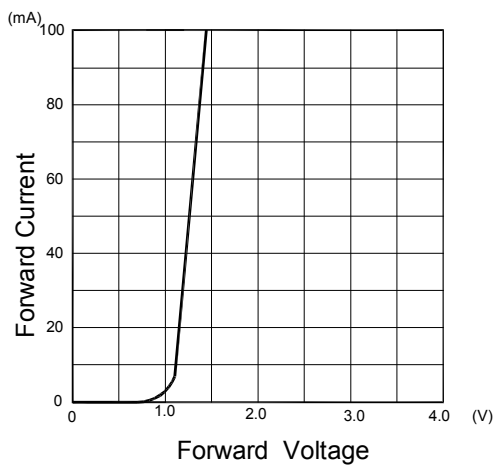


Fig.4 Relative Radiant Intensity Vs Ambient Temperature

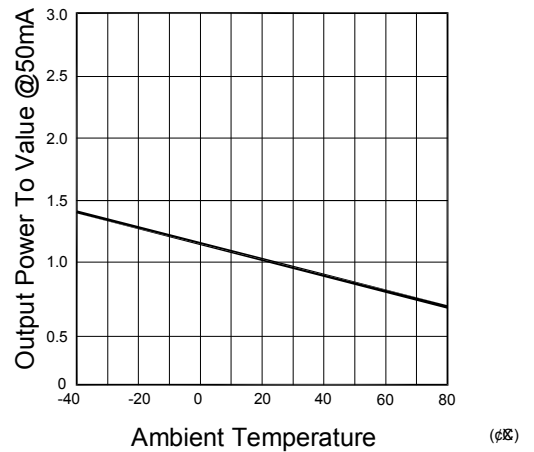


Fig.5 Relative Radiant Intensity Vs Forward Current

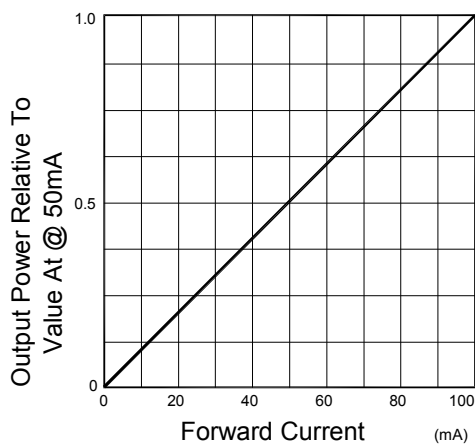
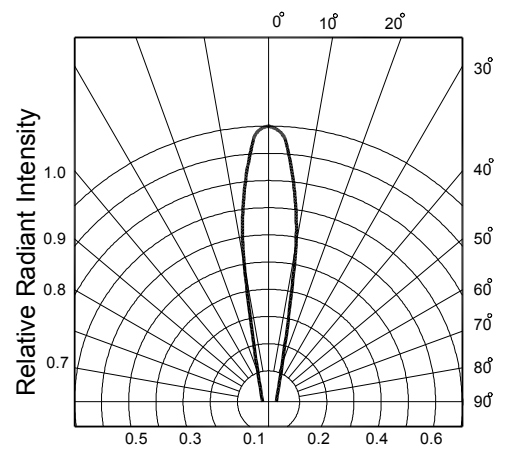


Fig.6 Radiation Diagram



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◆ Reliability Test Items And Conditions:

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

Confidence level: 90%.

LTPD: 10%.

No.	Test Item	Test Hours/Cycles	Test Conditions	Sample Size	Ac/Re
1	Resistance to Soldering Heat	6 Min	Tsld=260±5℃, Min. 5sec	25pcs	0/1
2	Thermal Shock	300 Cycles	H: +100℃ 5min J 10 sec L: -10℃ 5min	25pcs	0/1
3	Temperature Cycle	300 Cycles	H: +100℃ 15min J 5min L: -40℃ 15min	25pcs	0/1
4	High Temperature Storage	1000Hrs.	Temp: 100℃	25pcs	0/1
5	Low Temperature Storage	1000Hrs.	Temp: -40℃	25pcs	0/1
6	High Temperature/ High Humidity	1000Hrs.	85℃/85%RH	25pcs	0/1

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◆ Please read the following notes before using the datasheets:

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the LEDs should be kept at 30°C or less and 90%RH or less.

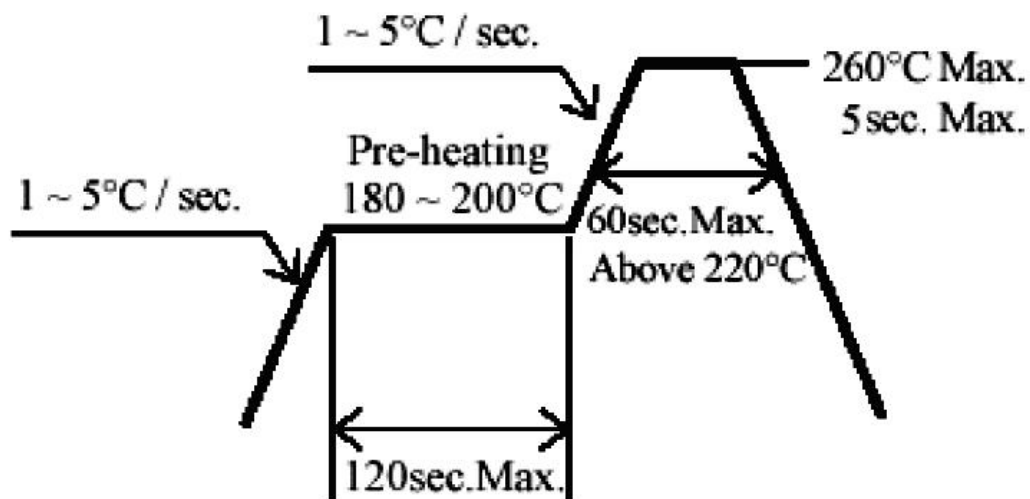
2.3 The LEDs should be used within a year.

2.4 After opening the package, the LEDs should be kept at 30°C or less and 70%RH or less.

2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

3. Soldering Condition

3.1 Pb-free solder temperature profile.



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 260°C for 5 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.