QUELIGHTING

Sustainable Lighting Solution

QLIR01JXGM
1050nm

Product Outline:

QLIR01JXGM is an infrared DIP lamp LED, package dimension is ∅5mm lamp ,1050nm emitting diode in InP/Si with high speed and high radiant power.

Features:

- Infrared **1050nm** led
- High Output Power
- With water clear resin
- Infrared 5mm round lamp
- **20**° Viewing angle
- RoHS compliant
- Custom Bin available upon special request

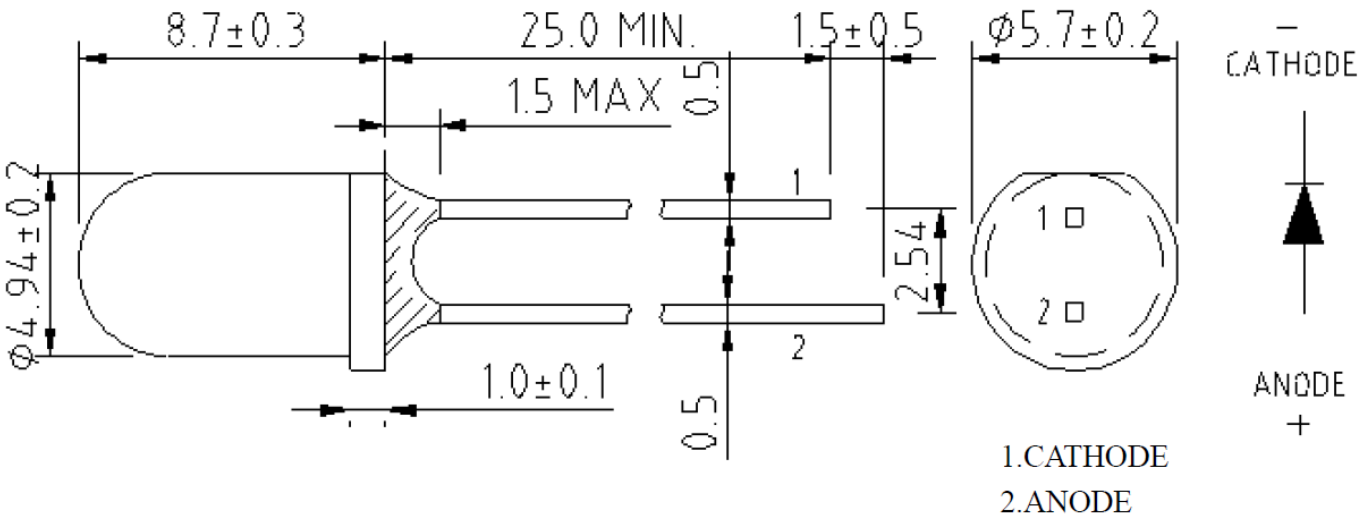
Application:

- Optical Switches
- General purpose indicator application
- Optical Sensors
- Fiber Optical Communication
- Light curtain

Compliance and Certification:

■ Mechanical Property:

(Dimension)



SING: 1. CATHODE
2. ANODE
Tolerance is ±0.25mm unless otherwise specified

■ ELEMENT APPEARANCE

Model No.	Material	Lighting Color	Resin Color
QLIR01JXGM	InP	Non-Visible	water clear

■ ABSOLUTE MAXIMUM RATINGS AT Ta=25℃

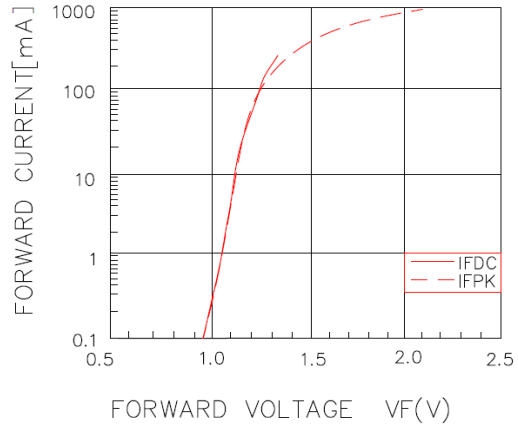
Characteristic	Symbol	Rating	Unit
Forward direct current	IFM	150	mA
Ta=25℃, pulsed operation T < 10us	I_{FSM}	200	mA
Reverse voltage	VRM	5	V
Operating temperature	Topr	-40 to +85	℃
Storage temperature	Tstg	-40 to +85	℃
Power dissipation	Pd	210	mW

■ ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25℃

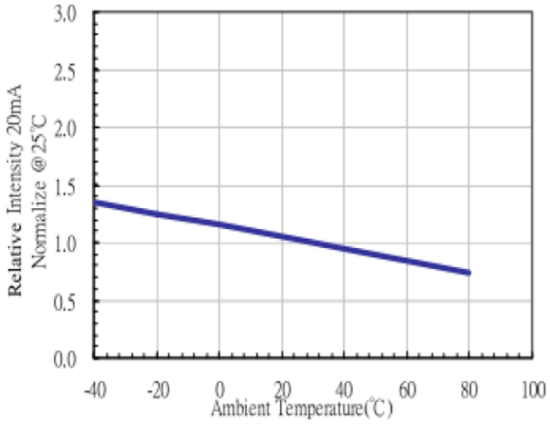
Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	Ie	IF=100mA		46.2		mW/sr
Forward Voltage	Vf	IF=100mA		1.4		V
Reverse current	Ir	Vr=5V			10	μA
Peak emission wavelength	λp	IF=100mA		1050		nm
Spectral band width @ 50%	▲λ	IF=100mA		75		nm
Viewing angle	2θ 1/2	IF=100mA		20		Deg

*Radiant Intensity Measurement allowance is ±15%
** Forward voltage Measurement allowance is ±0.05V
*** Peak emission wavelength Measurement allowance is ±1nm
****the viewing angle measurement qallowance is ± 10°

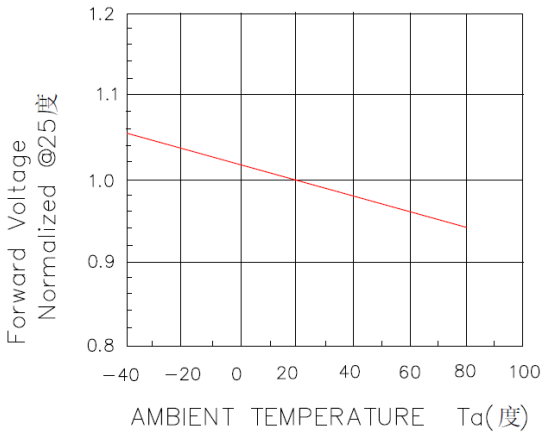
■ Characteristic Curves

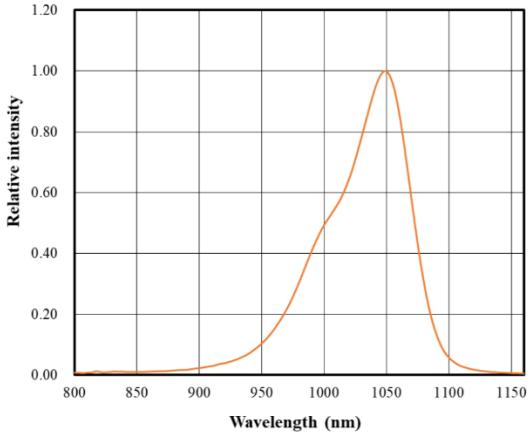


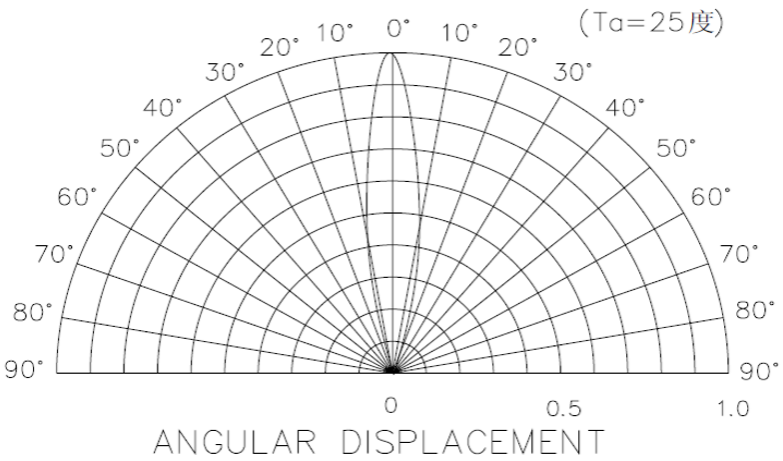
Forward Voltage vs. Forward Current



Relative Luminous Intensity vs Ambient Temperature







Radiation Pattern

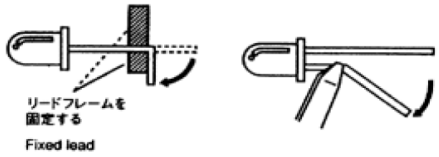
■ APPLICATION NOTES：

Static Electricity and Surge

Static electricity and surge damage LEDs. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs. All devices, equipment and machinery must be electrically grounded.

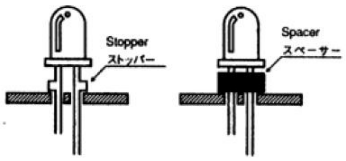
Lead Forming

The leads should be bent at a point at least 3mm from the epoxy resin of the LEDs.
Bending should be performed with the base firmly fixed by means of a jig or radio pliers.

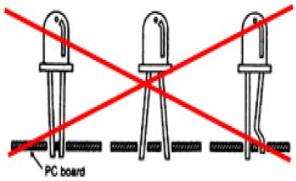


Mounting Method

The leads should be formed so they are aligned exactly with the holes on the PC board.
This will eliminate any stress on the LEDs.
Use LEDs with stoppers or resin spacer to accurately position the LEDs.
The epoxy resin base should not be touching the PC board when mounting the LEDs.



Mechanical stress to the resin may be caused by the warping of the PC board when soldering.
The LEDs must not be designed into a product or system where the epoxy lens is pressed into a plastic or metal board. The lens part of the LED must not be glued onto plastic or metal. The mechanical stress to the lead-frame must be minimized.



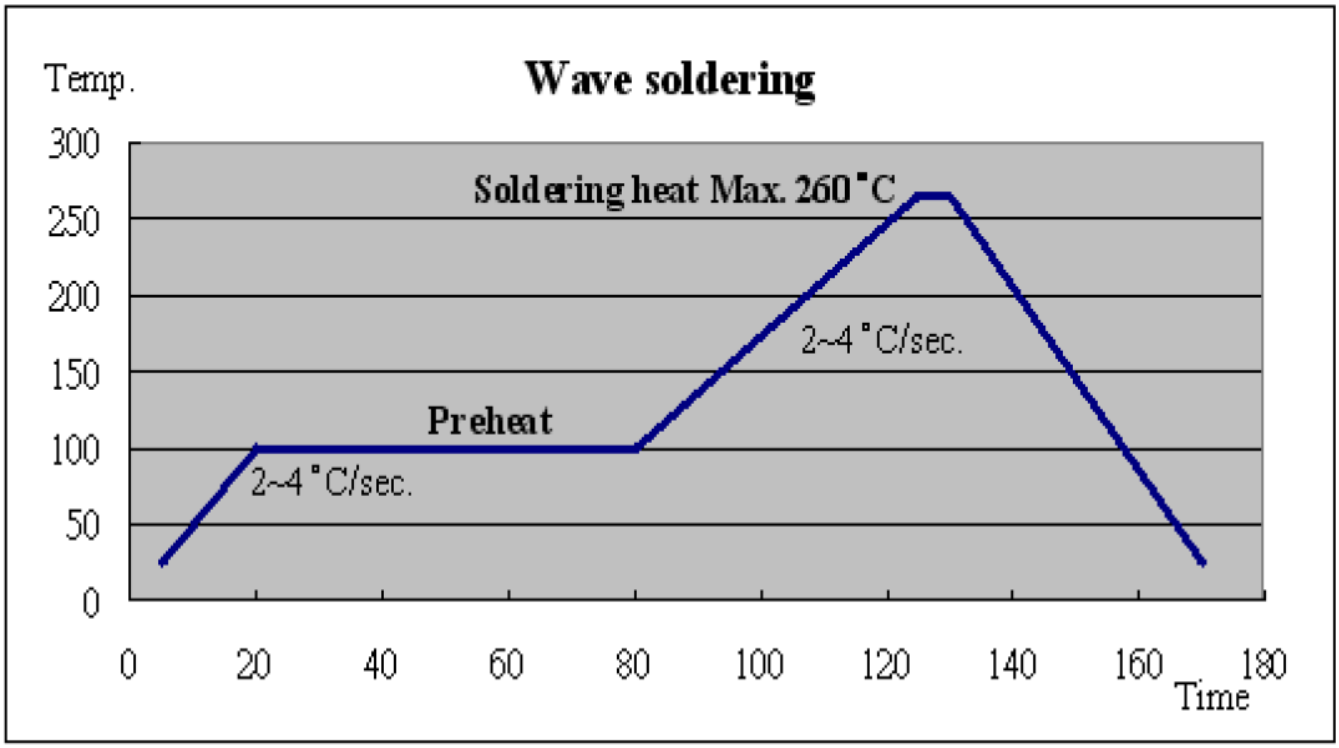
Soldering

Solder the LEDs no closer than 3mm from the base of the epoxy resin.
For solder dipping, it may be necessary to fix the LEDs for correct positioning.
When doing this, any mechanical stress to the LEDs must be avoided.
When soldering, do not apply any mechanical force to the leadframe while heating.
Repositioning after soldering must be avoided.

■ Solder Profile:

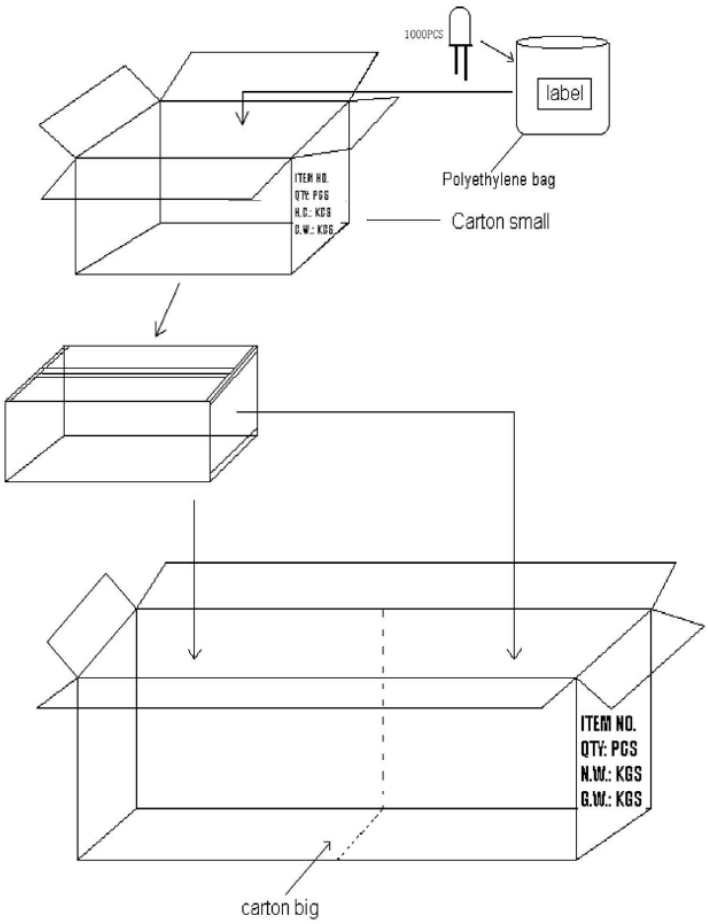
-The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):

Shape	Lead Frame Type
Hand soldering	1.Temp.at tip of iron : 300 °C max.(30W max.) 2.Soldering time : 3 sec max. 3.Distance : 3 mm MIN (from solder joint to case)
DIP soldering	1.Preheat temp : 100 °C max , 60 sec max. 2.Bath temp : 260 °C max. 3.Bath time : 3 sec max. 4.Distance : 3 mm MIN (From solder joint to case)
Recommended soldering profile	1.Preheat temp. : 100 °C , 50 sec max. 2.Peak temp. : 260 °C max. 3.Peak time : 3 sec max. 4.Duration above: 200°C ，3 sec max.

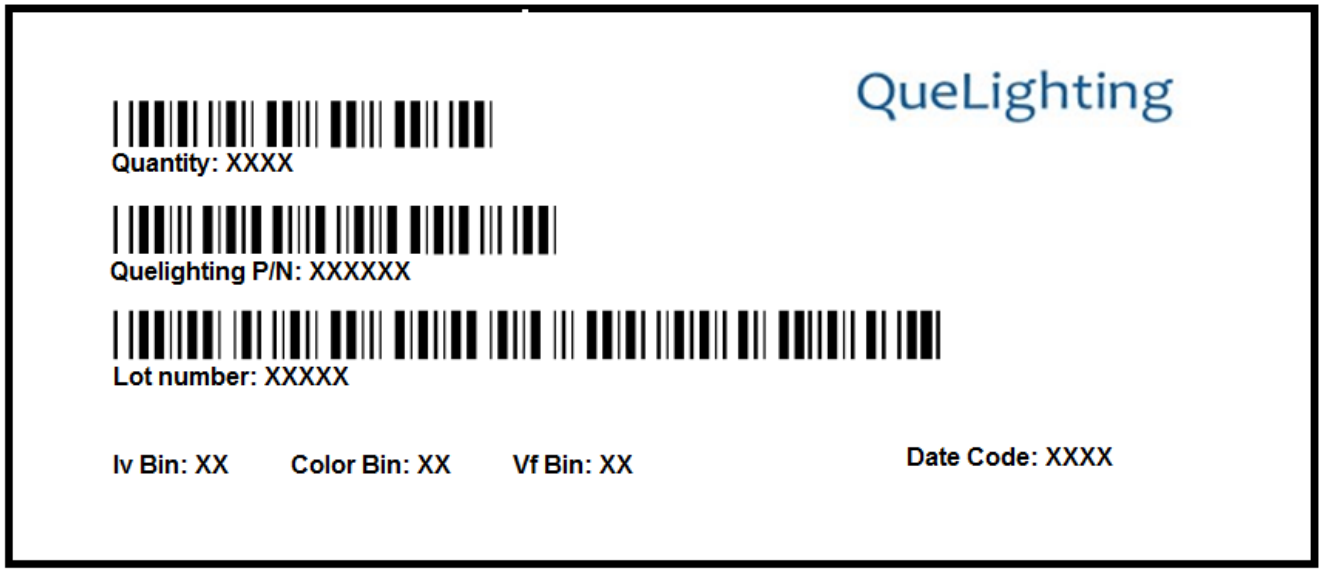


■ Taping & Packing:

The boxes are not water resistant and they must be kept away from water and moisture. The LEDs are packed in cardboard boxes after packaging in normal or anti-electrostatic bags. Cardboard boxes will be used to protect the LEDs from mechanical shocks during transportation.



Labeling



Ordering Information:

Part #	Multiple Quantities	Quantity per Bag
QLIR01JXGM		500pcs

Revision History:

Revision Date:	Changes:	Version #:
10-10-2025	Initial release	1.0