



QLIR03DXJ



Product Outline:

QLIR03DXJ is an infrared LED, package dimension is square (side firing) ,940nm emitting diode in AlGaAs/Si with high speed and high radiant power. This device also pairs well with QLPT03DXG

Features:

- Infrared 940nm led
- Water clear lens
- Infrared square lamp
- 25° Viewing angle ($\pm 10^\circ$)
- RoHS compliant
- Custom Bin available upon special request
- Ideal emitter for Mouse application

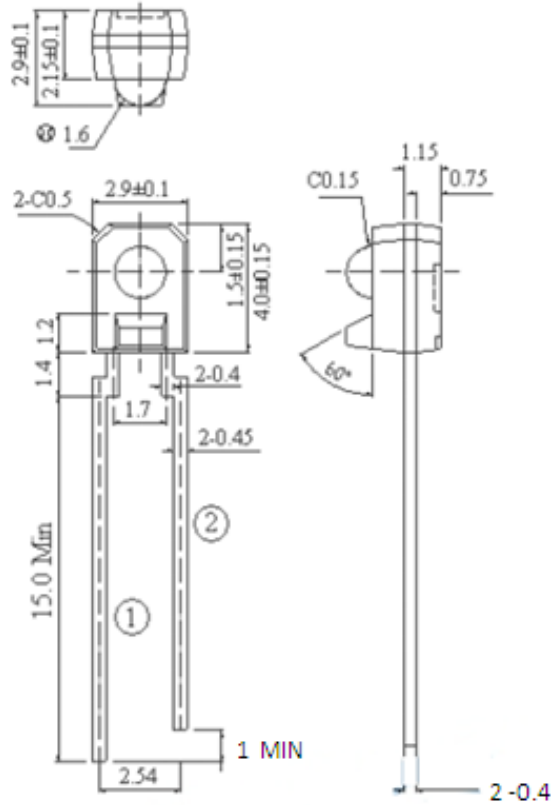
Application:

- Electronic signs and electronics board
- General purpose indicator application
- Smoke-automatic fire detectors
- Lighting application

Compliance and Certification:



■ Mechanical Property:
(Dimension)



Pin out: 1. CATHODE
2. ANODE

Tolerance is ± 0.25 mm unless otherwise specified

■ ELEMENT APPEARANCE

Model No.	Material	Lighting Color	Resin Color
QLIR03DXJ	AlGaAs	Non-Visible	Water clear



■ ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

Characteristic	Symbol	Rating	Unit
Forward direct current	IFM	50	mA
Ta=50°C, pulsed operation tp = 34us at D= 1/100	IFSM	1	A
Reverse voltage	VRM	5	V
Operating temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-40 to +100	°C
Power dissipation	Pd	75	mW

■ ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Light Current	Ic(on)	IF=4mA, Vce =3.5V	450	800		μA
Forward Voltage	Vf	IF=20mA		1.2	1.5	V
Reverse current	Ir	Vr=5V			10	μA
Peak emission wavelength	λp	IF=20mA		940		nm
Spectral band width @ 50%	▲λ	IF=20mA		45		nm
Reverse Current	Ir	Vr = 20mA			10	μA
Viewing angle	2θ 1/2	IF=20mA		25		Deg

*Radiant Intensity Measurement allowance is ±15%

** Forward voltage Measurement allowance is ±0.05V

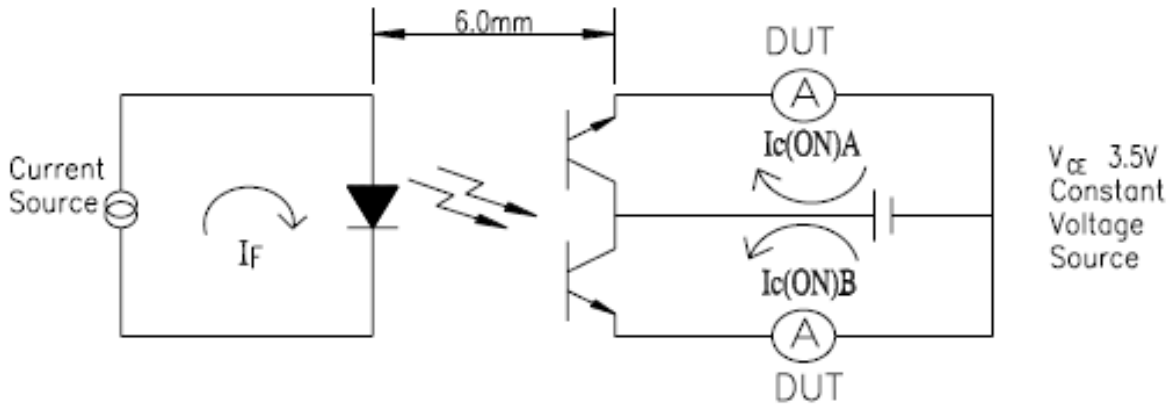
*** Peak emission wavelength Measurement allowance is ±1nm



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

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

The intensity testing method for infrared emitting diode



$I_{c(on)}$ Bin:

uA				
Condition	Code name	Min.	Max.	Unit
$I_f=4mA,$ $V_{ce} = 3.5V$	A-1	450	750	μA
	A-2	650	1200	μA



■ Reliability test:

No	Item	Condition	Time/Cycle	Criteria	Ac / Re	Sample size
1	Soldering Heat Test	260°C	5 sec	Open / Short	0 / 1	60 pcs
2	Thermal Shock	0 (5min) °C ~100 (5min) °C	20 cycle	Open / Short	0 / 1	60 pcs
3	High Temp. Storage	100°C	1000 Hrs	Open / Short	0 / 1	60 pcs
4	Low Temp. Storage	-40°C	1000 Hrs	Open / Short	0 / 1	60 pcs
5	Temperature Cycle Test	-40 ~85 °C	100 Cycles , 200Hrs	Open / Short	0 / 1	60 pcs
6	High Temp. High Humidity Test	60 , 90% RH °C	1000 Hrs	Open / Short	0 / 1	60 pcs
7	DC Operation Life Test	IF=100mA	1000 Hrs	Power decay	≤ 30%	60 pcs

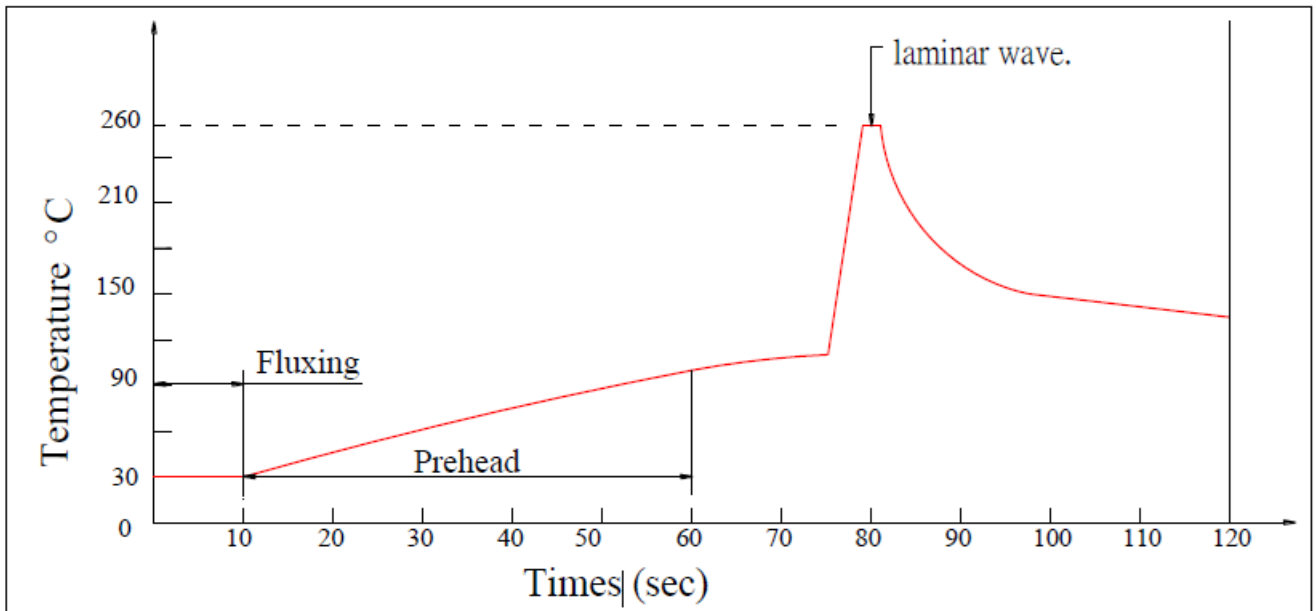


■ Solder Profile:

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


Shape	Lead Frame Type / Holder Type
Hand soldering	1.Temp.at tip of iron : 300 °C 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 : 5 sec MAX. 4.Distance : 3 mm MIN (From solder joint to case).
Reflow soldering	NO
Shape	SMD Type
Hand soldering	1.Temp.at tip of iron : 300 °C MAX. 2.Soldering time : 3 sec MAX.
DIP soldering	1.Preheat temp. : 120-150 °C , 60-120 sec. 2.Bath temp. : 260 °C MAX. 3.Bath time : 5 sec
Reflow soldering	1.Preheat temp. : 150-180 °C , 120 sec MAX. 2.Peak temp. : 260 °C MAX. 3.Peak time : 10 sec MAX.






■ Taping & Packing:
Per Bag

Labeling




QueLighting

Quantity: XXXX



Quelighting P/N: XXXXXX



Lot number: XXXXX

Iv Bin: XX

Color Bin: XX

Vf Bin: XX

Date Code: XXXX



Ordering Information:

Part #	Multiple Quantities	Quantity per bag
QLIR03DXJ		1000pcs



Revision History:

Revision Date:	Changes:	Version #:
02-11-2019	Initial release	1.0

