



Product Outline:

QLIR01BYGM-215 is an infrared LED, package dimension is Ø5mm lamp ,860nm emitting diode in AlGaAs/Si with high speed and high radiant power.

Features:

- With Black resign
- Infrared 5mm round lamp
- 20° Viewing angle ($\pm 10^\circ$)
- RoHS compliant
- Custom Bin available upon special request

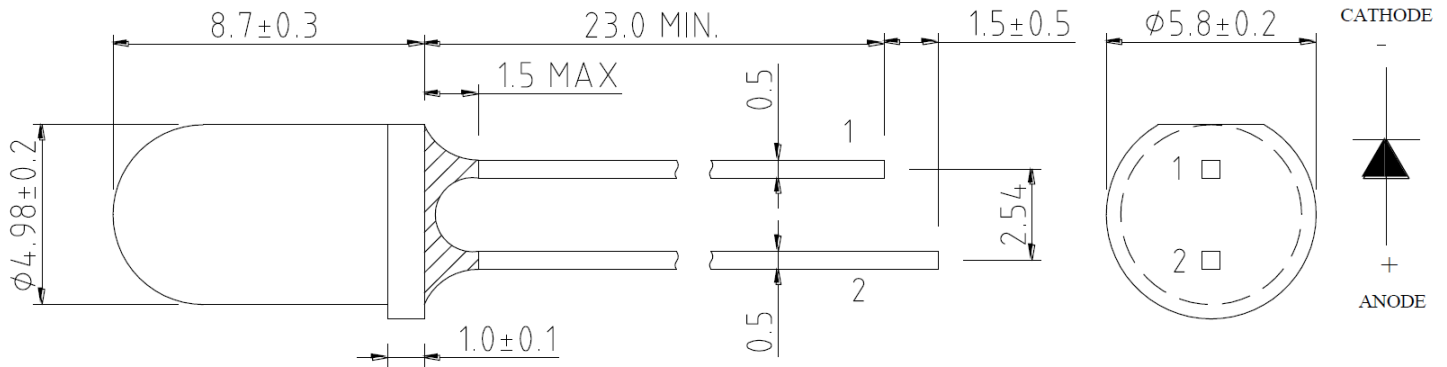
Application:

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

Compliance and Certification:



**■ Mechanical Property:
(Dimension)**



SING: 1. CATHODE
2. ANODE

Tolerance is ± 0.25 mm unless otherwise specified

■ ELEMENT APPEARANCE

Model No.	Material	Lighting Color	Resin Color
QLIR01BYGM-215	AlGaAs	Non-Visible	Black

■ ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

Characteristic	Symbol	Rating	Unit
Forward direct current	IFM	200	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	380	mW



■ ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25°C

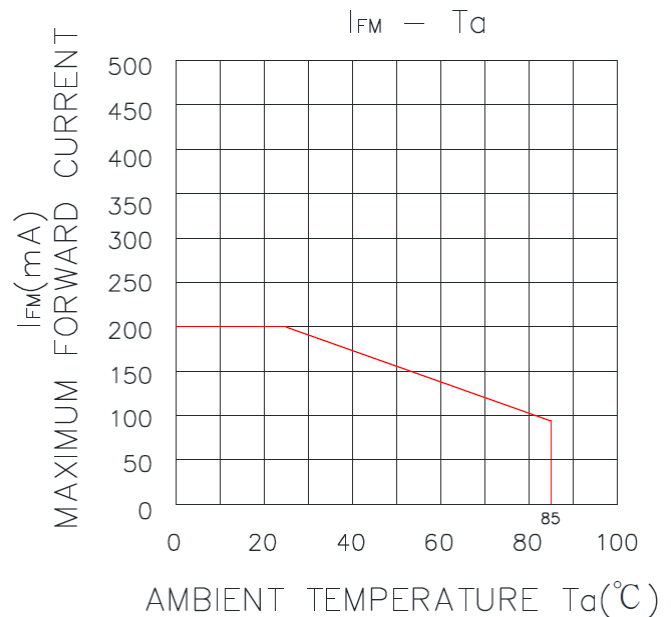
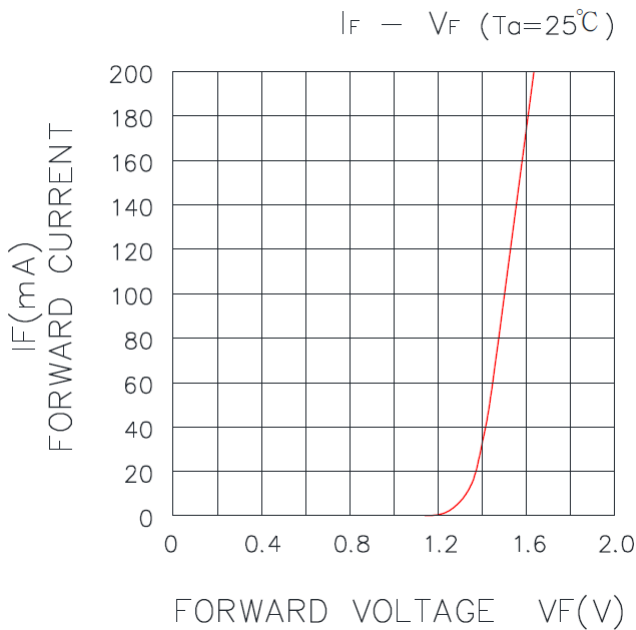
Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	Ie	IF=100mA	250			mW/sr
Forward Voltage	Vf	IF=100mA		1.5	2.0	V
Reverse current	Ir	Vr=5V			10	μA
Peak emission wavelength	λp	IF=100mA		860		nm
Spectral band width @ 50%	▲λ	IF=100mA		40		nm
Rise time / Fall time	Tr/Tf	IF=100mA		25/15		ns
Viewing angle	2θ 1/2	IF=100mA		20		Deg

*Radiant Intensity Measurement allowance is ±15%

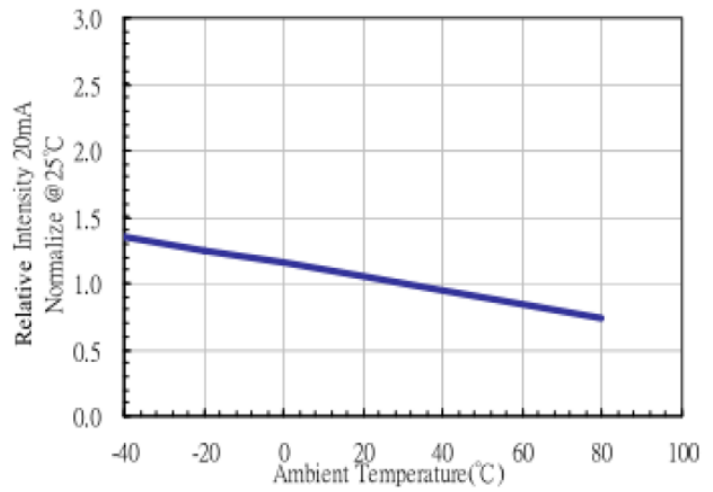
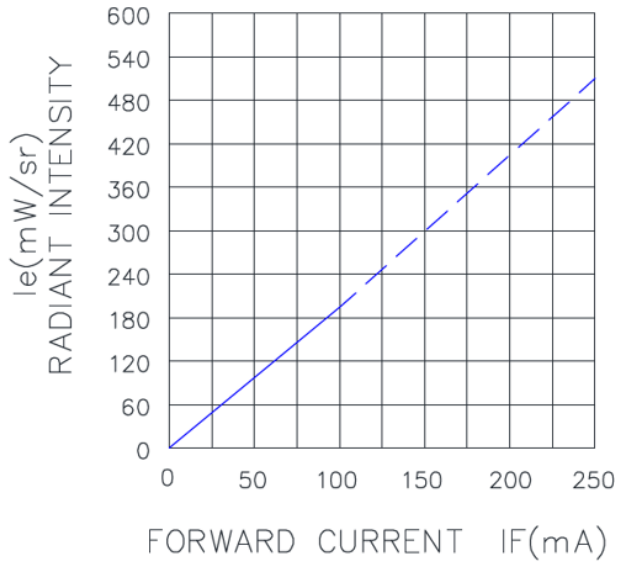
** Forward voltage Measurement allowance is ±0.05V

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

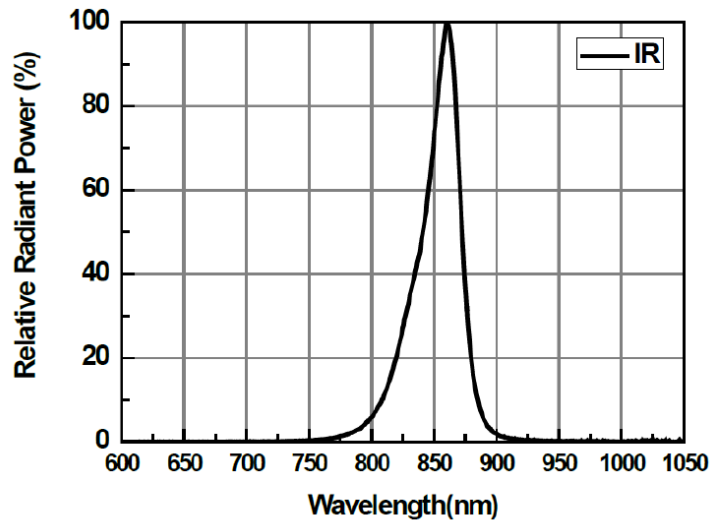
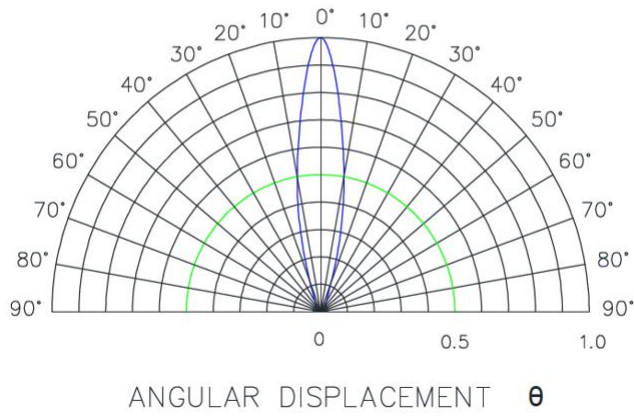
■ Characteristic Curves



$I_e - I_f$ ($T_a=25^\circ\text{C}$)



($T_a=25^\circ\text{C}$)



■ Reliability test:

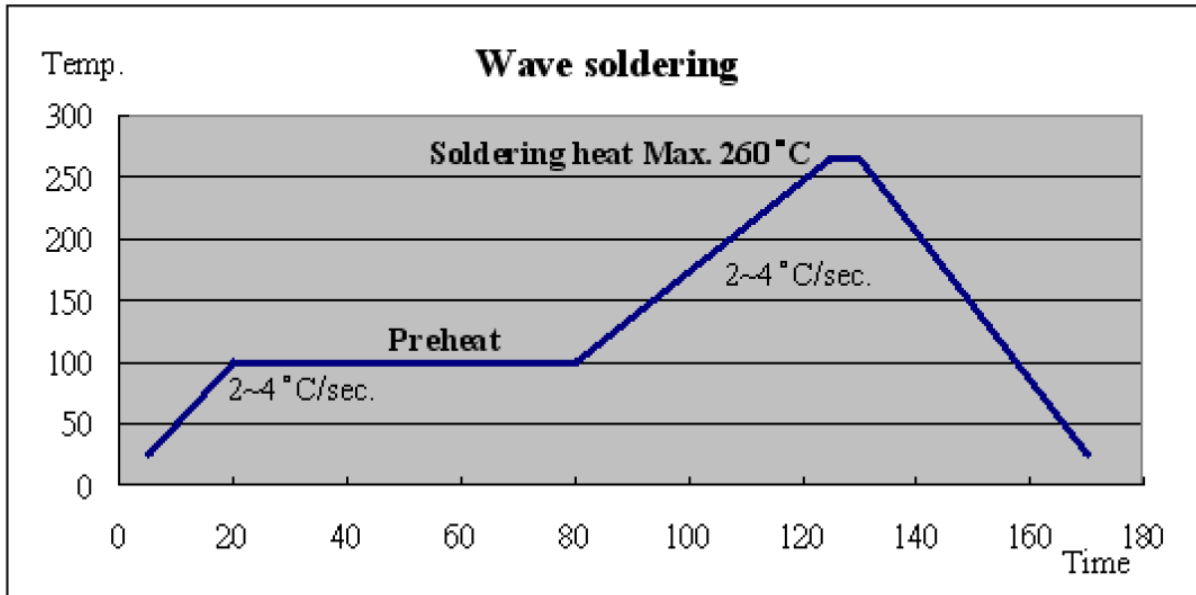
No	Item	Condition	Time/Cycle	Criteria	Ac / Re	Sample size
1	Soldering Heat Test	260°C	5 sec	Open / Short	0 / 1	60 pcs
2	Thermal Shock	0 (5min) °C ~100 (5min) °C	20 cycle	Open / Short	0 / 1	60 pcs
3	High Temp. Storage	100°C	1000 Hrs	Open / Short	0 / 1	60 pcs
4	Low Temp. Storage	-40°C	1000 Hrs	Open / Short	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
8						
9						
10						
11						



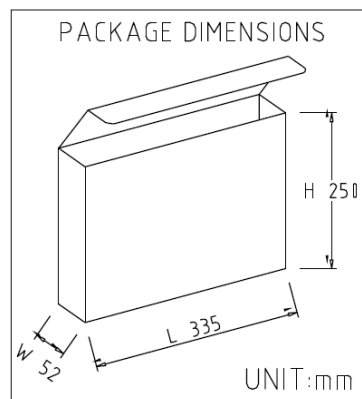
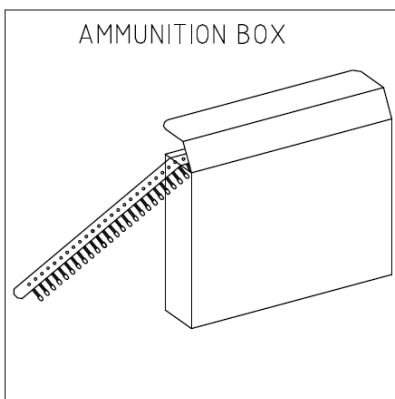
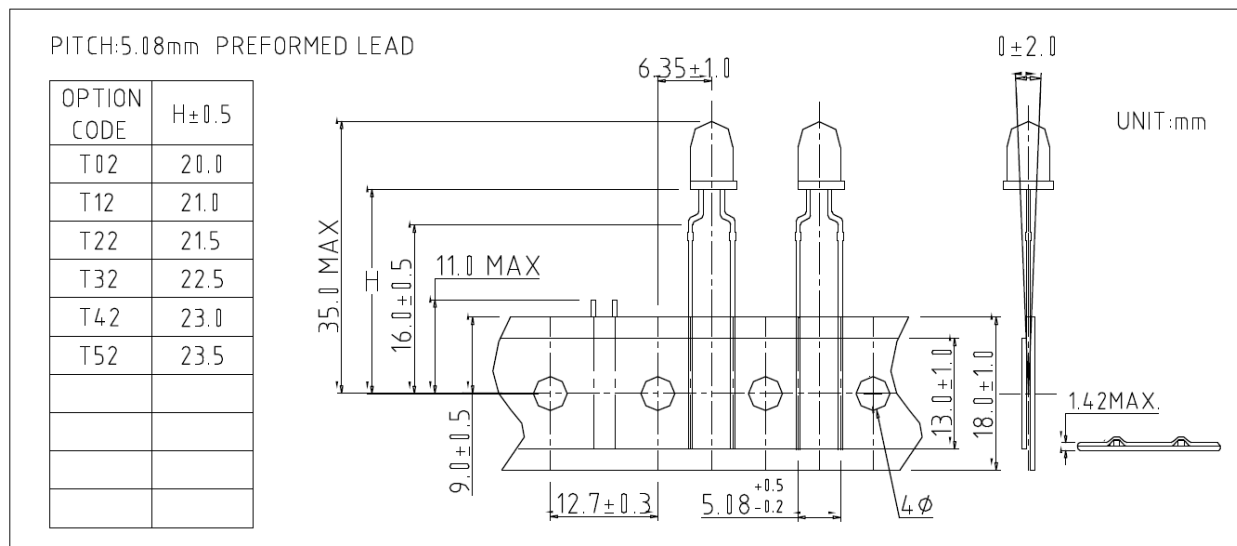
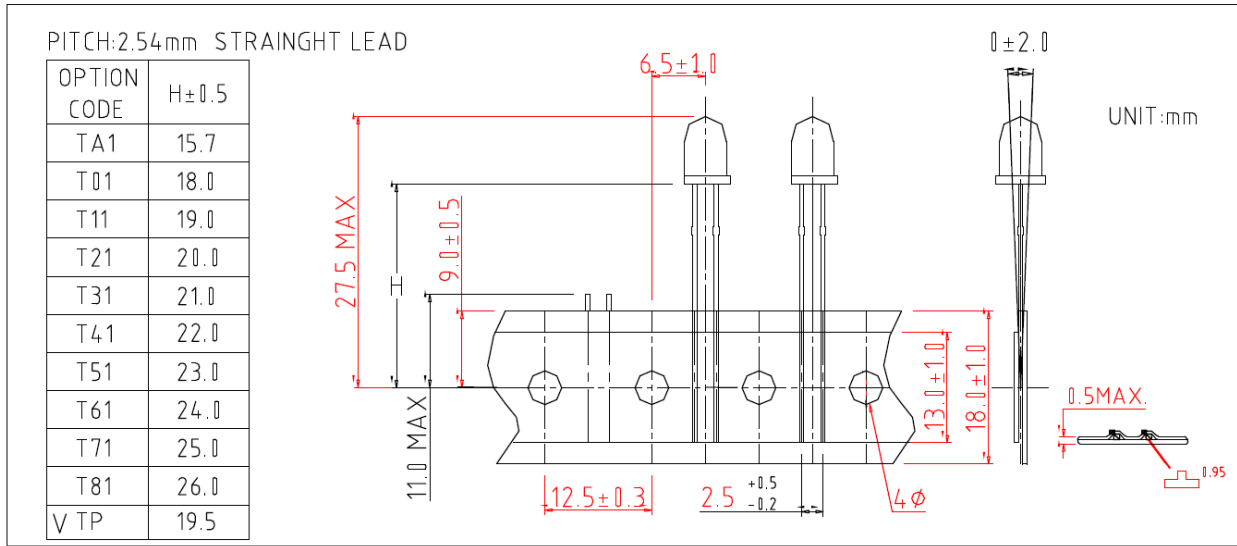
■ Solder Profile:

-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:



- REMARK:
- 1.The dimensions of H may be different among various models.
 - 2.Q'ty per reel for **3 φ 2500pcs**
5 φ 2000pcs
 - 3.Unless specially requested,the outgoing first LED'S lead is anode.
 - 4.防靜電產品包裝方式:
a使用黑色台紙防靜電紙條 TAPING
b使用有色防靜電塑膠帶包裝.



Labeling

 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 Reel
QLIR01BYGM-215		

Revision History:

Revision Date:	Changes:	Version #:
02-11-2019	Initial release	1.0
03-07-2019	Revise pulse and Radiant Intensity to min. 250mW	1.1

