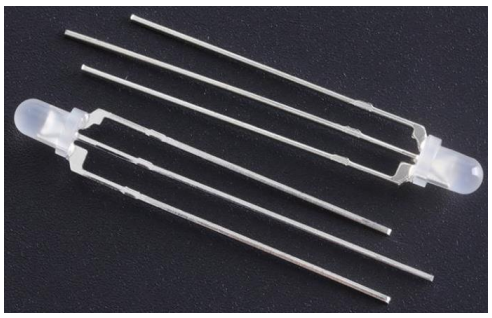
QUELIGHTING

Sustainable Lighting Solution



QLLP02YYGF-316

(3mm Bi-color LED)

■ Product Outline:

QLLP02YYGF-xxx is an Ø 3mm round & 3-pin Bi-color mixed as one color lamp LED series, This LED type is made with white diffused to deliver high brightness output.

Features:

- Bi-Color Effect
- F3.0 diameter package
- Green and Yellow common anode
- Low power consumption.
- High Luminous Intensity
- High Efficiency
- Long life, stable and reliable
- Pb-free
- RoHS compliant

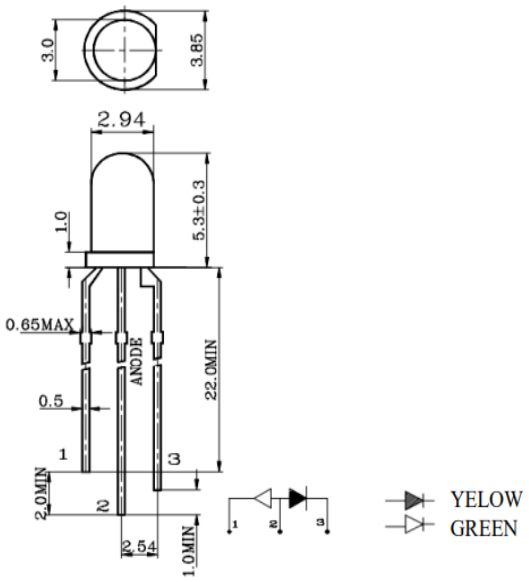
Application:

- TV & Monitor set
- NB & Computers
- Used as indicators of indicating the Degree, Functions, Positions etc, in electronic instruments
- Network communication equipment
- General use

Compliance and Certification:

■ Mechanical Property:

(Dimension)



Polarity	LED
PIN1. Cathode PIN2. Anode	GREEN
PIN2. Anode PIN3. Cathode	YELLOW

Note：

*Tolerance is ±0.3 unless otherwise noted（Unit=mm）.

*Protruded resin under flange is 1.0mm(.05") max

*Suggested pad dimension is just for reference only. Please modify the pad dimension based on individual need.

*Specifications are subject to change without notices.

■ Optical Characteristics

Ta=25℃

Model No.	Chip emitted color	Viewing Angle°	Lens Color	Polarity
QLLP02YYGF-316	G: Green (AlGaInP) Y: Yellow(AlGaInP)	65°	White Diffused	Common Anode

■ ABSOLUTE MAXIMUM RATINGS

Ta=25℃

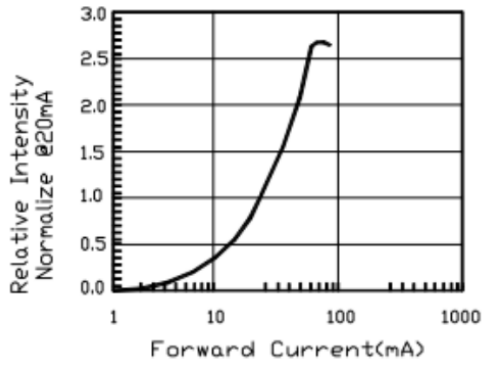
Characteristic	Symbol	Rating		Unit
		Yellow	YellowGreen	
Power dissipation	P_D	50	50	mW
DC Forward current	I_F	20	20	mA
Peak Forward Current	I_{FP}	80	80	mA
Reverse voltage	V_R	5	5	V
Electrostatic Discharge(HBM)	ESD	2000	2000	V
Operating temperature	T_{opr}	-40 to +85		℃
Storage temperature	T_{stg}	-40 to +100		℃

■ Electrical Optical Characteristics（Ta=25℃）

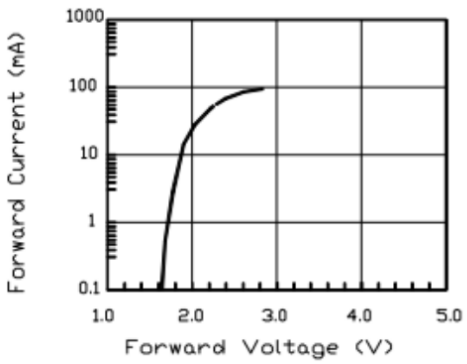
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous intensity	I_V (Y) I_V (G)	-	60 40	-	mcd	I_F=20mA
Peak Wavelength	λ_P (Y) λ_P (G)	-	585 565	-	nm	
Dominant Wavelength	λ_D (Y) λ_D (G)	585 565	590 570	595 575	nm	
Forward Voltage	V_F (Y) V_F (G)	-	2.1 2.1	2.6 2.6	V	
Revere Current	I_R	-	-	50	μA	V_R=5V

Notes：
*Tolerance of Luminous intensity ±15%
*Tolerance of Dominant Wavelength ±2nm
*Tolerance of Forward Voltage ±0.1V
*When using multiple LEDs at the same time, please use the typ value of Recommended Forward Current to avoid color difference and uneven brightness notices
*Specifications are subject to change without notices

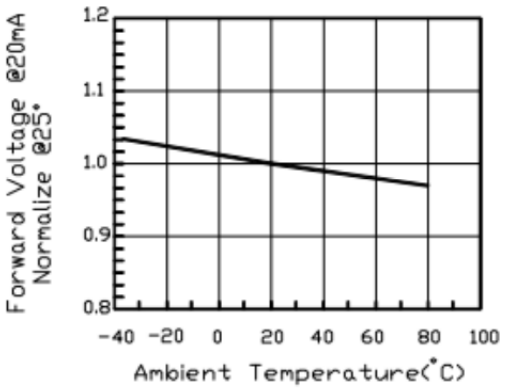
■ Characteristic Curves (Yellow)



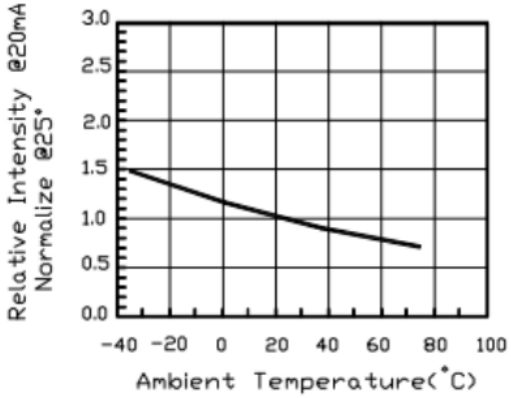
Luminous intensity vs. Forward current



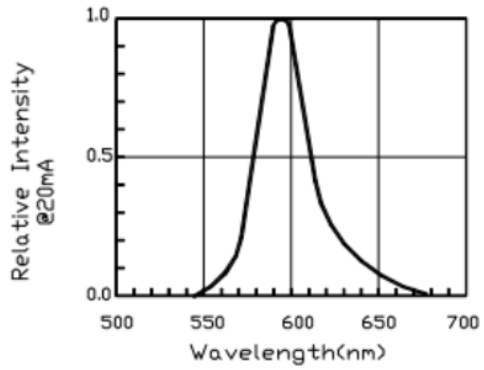
Forward Voltage vs. Forward Current



Forward Voltage vs Ambient Temperature

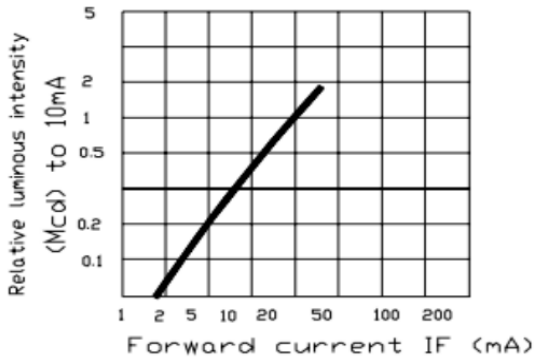


Relative Intensity vs Ambient Temperature

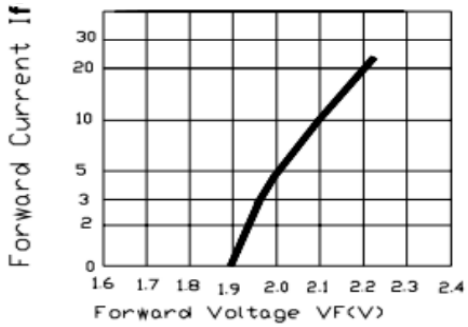


Relative Intensity vs Wavelength (nm)

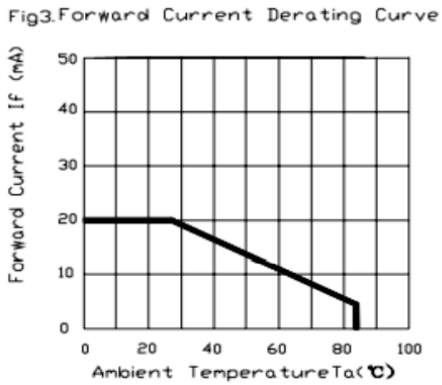
■ Characteristic Curves (Green)



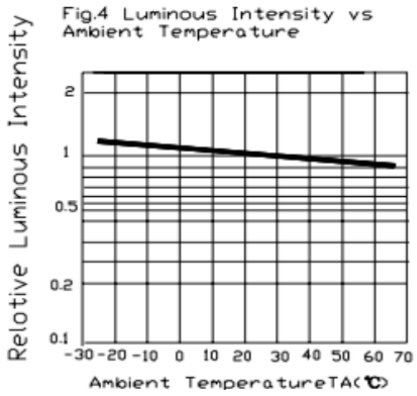
Luminous intensity vs. Forward current



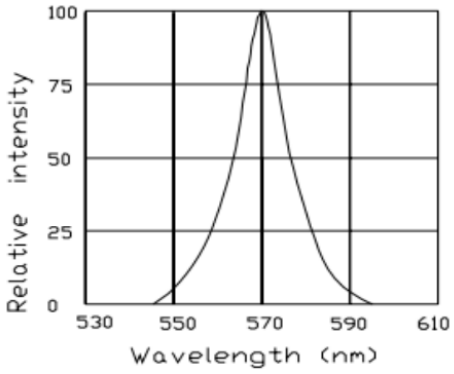
Forward Voltage vs. Forward Current



Forward Current vs Ambient Temperature



Relative Intensity vs Ambient Temperature



Relative Intensity vs Wavelength (nm)

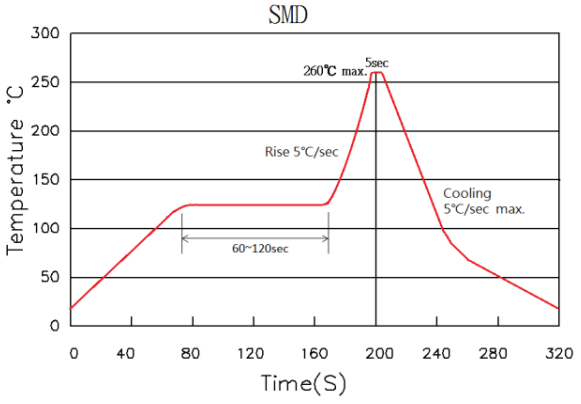
■ Reliability test:

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

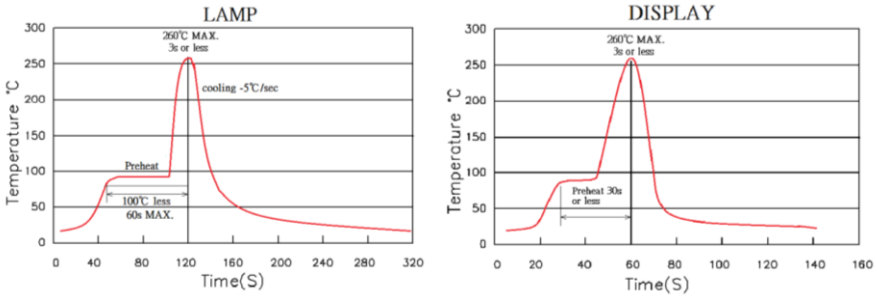
■ Solder Profile:

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

■Reflow soldering condition



■**Wave soldering condition**



●**Lead solder temperature (2mm below package base.) 260°C for 3 Seconds or less**

■Soldering Iron

●Temperature at tip of iron：350℃ Max（Soldering time：3 sec.）

■Soldering Conditions

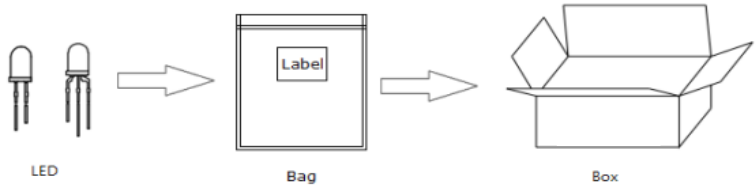
●When soldering, do not put stress on the LEDs during heating.
●Soldering should not be done more than twice.
●After soldering, do not warp the circuit board.
●With Holder LEDs are incompatible with reflow soldering

■Electrostatic Discharge（ESD）

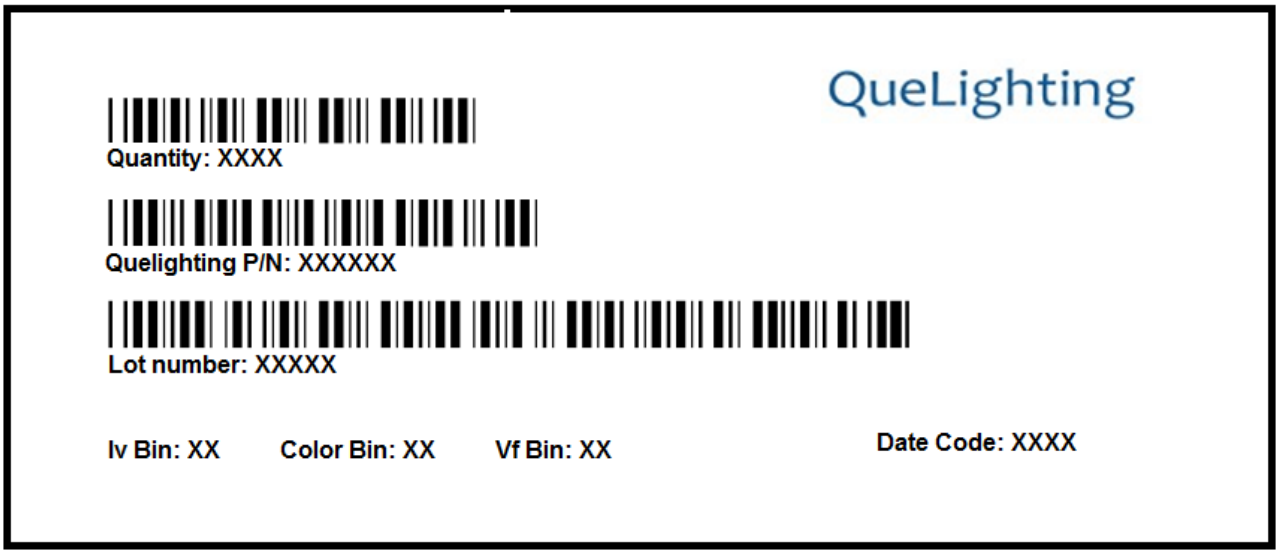
●Static electricity and surge can damage the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED.
●All devices, equipment and machineries must be electrically grounded.
●The LED are sensitive to static electricity and must be carefully taken when handling products.

■ Packing

●1,000 pcs / Bag
*The actual number of packages will depend on the output（500 ~ 1,000 pcs/Bag）
●10,000 pcs / Box



■ Labeling



■ Ordering Information:

Part #	Multiple Quantities	Quantity per Bag
QLLP02YYGF-316		1000

■ Revision History:

Revision Date:	Changes:	Version #:
2021.5.20	Initial release	1.0