QT-Brightek Lamp Series

5mm Round LED

Part No.: QBL8XX15C_series

XX: Color Code

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Introduction

Feature:
- Clear lens
- Package in bulk pack
- 5mm round lamp
- AlInGaP technology for R/Y/O/AG
- InGaN technology for IG/IB
- Viewing angle: 15º typ.

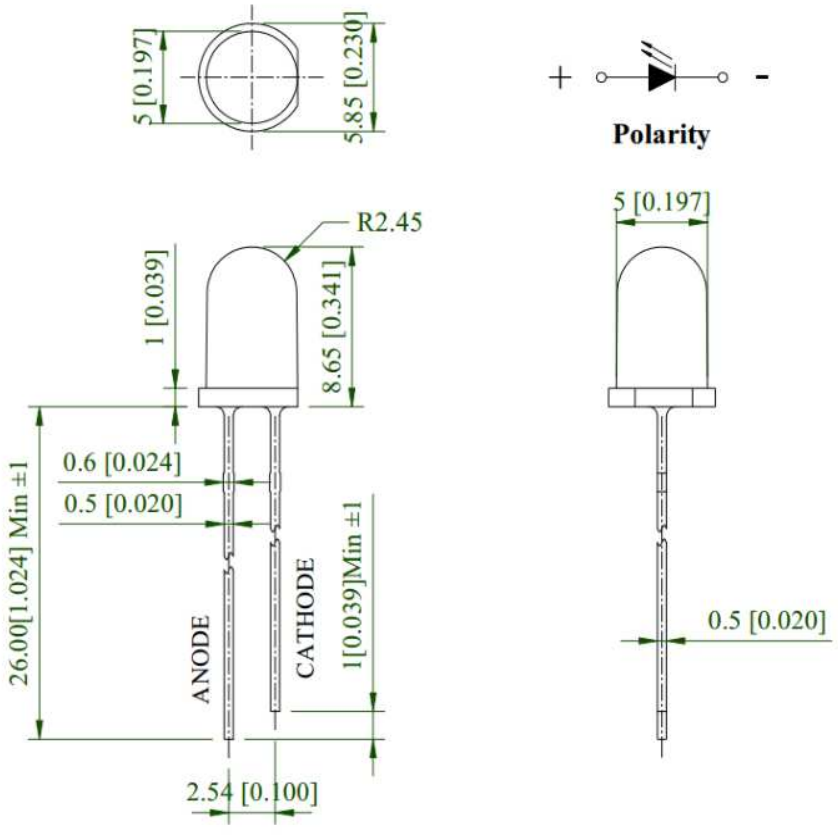
Description:

These bright 5mm round type lamps are suitable for all indicator applications such as electronic signs and electronics board indicator

Application:
- General purpose indicator application
- Electronic signs and electronics board

Certification & Compliance:
- TS16949
- ISO9001
- RoHS Compliant

Dimension:



Units: mm / tolerance = +/-0.25mm unless otherwise specified

Electrical / Optical Characteristic (Ta=25°C)

Product	Color	I_F (mA)	V_F (V)		λ_D (nm)	I_V (mcd)	
			Typ.	Max.	Typ.	Min.	Typ.
QBL8R15C	Red	20	2.0	2.6	624	2900	5000
QBL8O15C	Orange	20	2.0	2.6	605	3800	6500
QBL8Y15C	Yellow	20	2.0	2.6	590	2900	5000
QBL8AG15C	Yellow Green	20	2.0	2.6	573	1000	1700
QBL8IG15C	True Green	20	3.2	3.6	525	30000	39000
QBL8IB15C	Blue	20	3.2	3.6	470	6500	11000

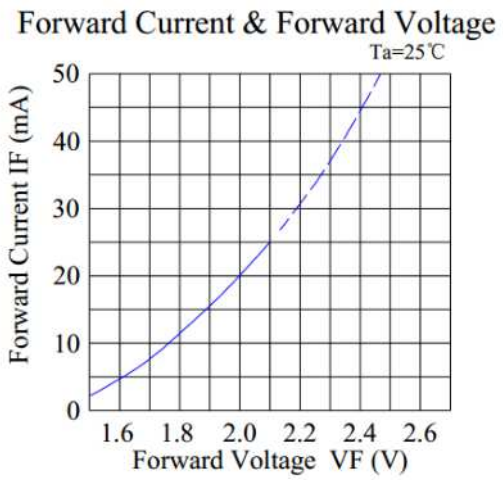
Absolute Maximum Rating

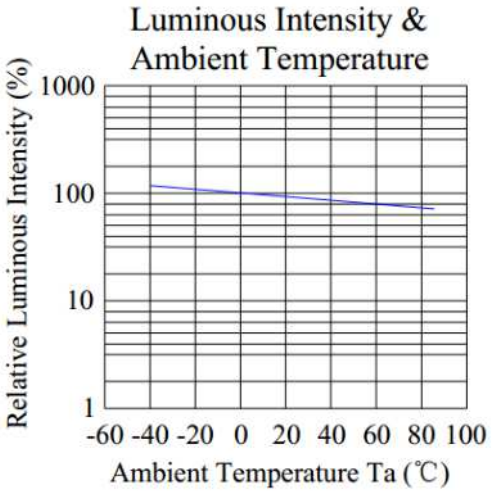
Material	P_d (mW)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)
AlInGaP	65	25	100	5	-40 ~ +85	-40 ~ +100
InGaN	95	25	100	5	-40 ~ +85	-40 ~ +100

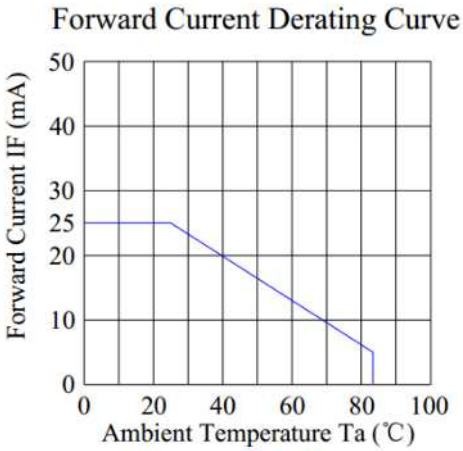
*1/10 Duty Cycle, 0.1ms Pulse Width

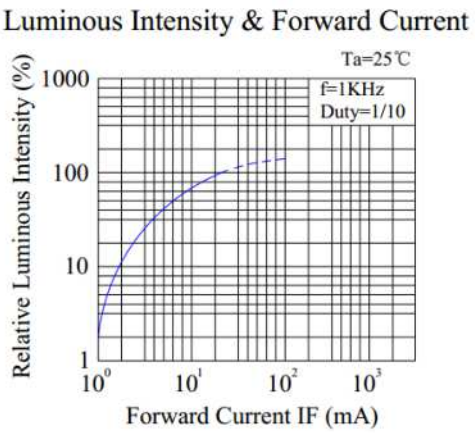
Characteristic Curves

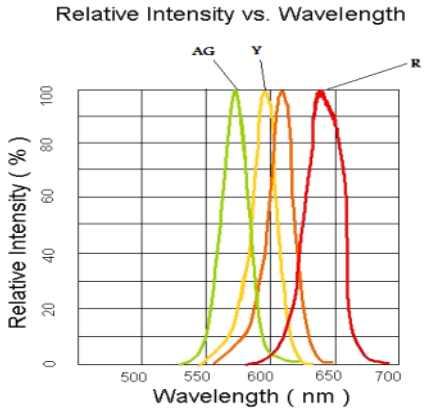
AlInGaP

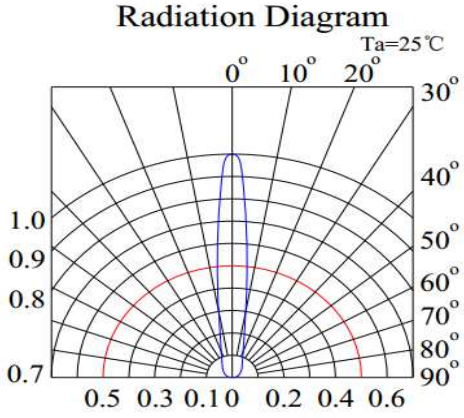




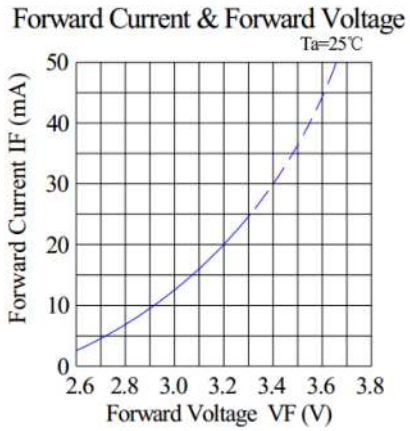


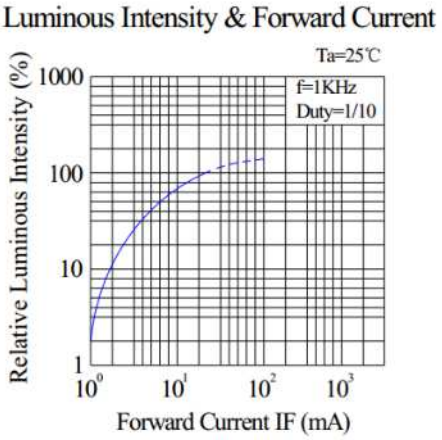


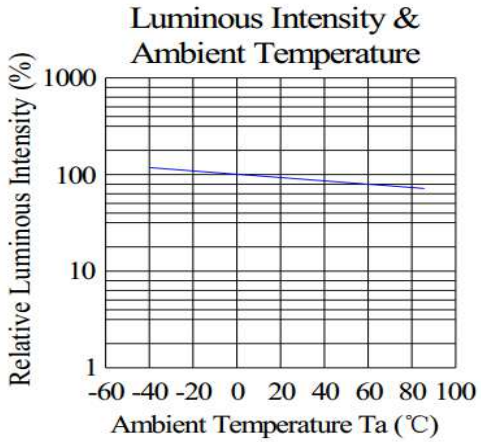


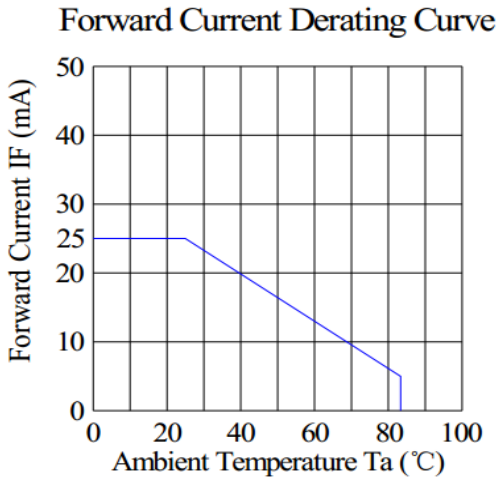


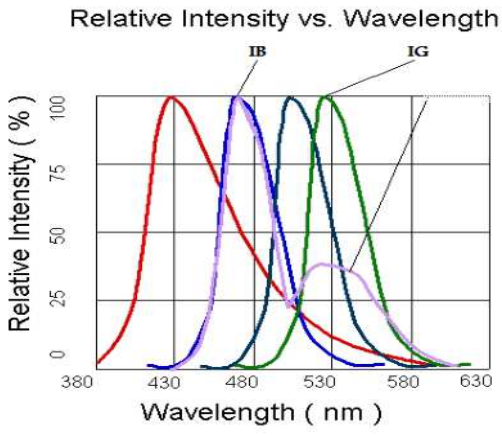
InGaN

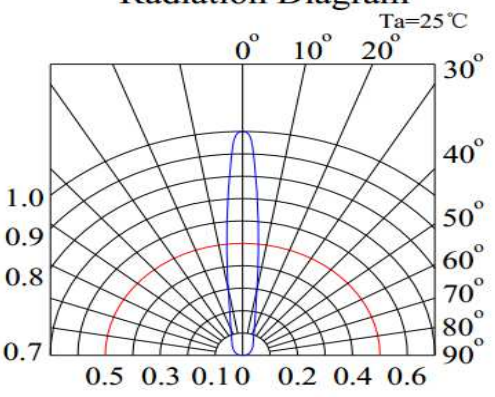

Forward Current & Forward Voltage
Ta=25℃
Forward Current IF (mA)
50
40
30
20
10
0
2.6 2.8 3.0 3.2 3.4 3.6 3.8
Forward Voltage VF (V)


Luminous Intensity & Forward Current
Ta=25℃
f=1KHz
Duty=1/10
Relative Luminous Intensity (%)
1000
100
10
1
10⁰ 10¹ 10² 10³
Forward Current IF (mA)


Luminous Intensity &
Ambient Temperature
Relative Luminous Intensity (%)
1000
100
10
1
-60 -40 -20 0 20 40 60 80 100
Ambient Temperature Ta (℃)


Forward Current Derating Curve
Forward Current IF (mA)
50
40
30
25
20
10
0
0 20 40 60 80 100
Ambient Temperature Ta (℃)


Relative Intensity vs. Wavelength
IB
IG
Relative Intensity (%)
0 25 50 75 100
380 430 480 530 580 630
Wavelength (nm)


Radiation Diagram
Ta=25℃
0° 10° 20°
30°
40°
50°
60°
70°
80°
90°
1.0
0.9
0.8
0.7
0.5 0.3 0.1 0 0.2 0.4 0.6

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per bag
QBL8R15C	QBL8R15C	Iv=5000mcd typ. @ 20mA, λ_D=624nm typ.	500pcs
QBL8O15C	QBL8O15C	Iv=6500mcd typ. @ 20mA, λ_D=605nm typ.	500pcs
QBL8Y15C	QBL8Y15C	Iv=5000mcd typ. @ 20mA, λ_D=590nm typ.	500pcs
QBL8AG15C	QBL8AG15C	Iv=1700mcd typ. @ 20mA, λ_D=573nm typ.	500pcs
QBL8IG15C	QBL8IG15C	Iv=39000mcd typ. @ 20mA, λ_D=525nm typ.	500pcs
QBL8IB15C	QBL8IB15C	Iv=11000mcd typ. @ 20mA, λ_D=470nm typ.	500pcs

Revision History

Description:	Revision #	Revision Date
New Release of QBL8XX15C_series	V1.0	06/25/2011
Update format	V1.1	08/21/2012
Amend spec	V1.2	11/12/2012
Update spec, dimension drawing and binning	V2.0	01/13/2016
Update spec and dimension drawing	V3.0	01/22/2018

Disclaimer

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.

2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.