QT-Brightek Lamp Series

5mm Round LED

Part No.: QBL8XX30C_series

XX: Color Code

Table of Contents:

Introduction

Feature:
- Clear lens
- Package in bulk pack
- 5mm round lamp
- AllnGaP technology for R/Y/O/AG
- InGaN technology for IG/IB
- Viewing angle: 30° typ.

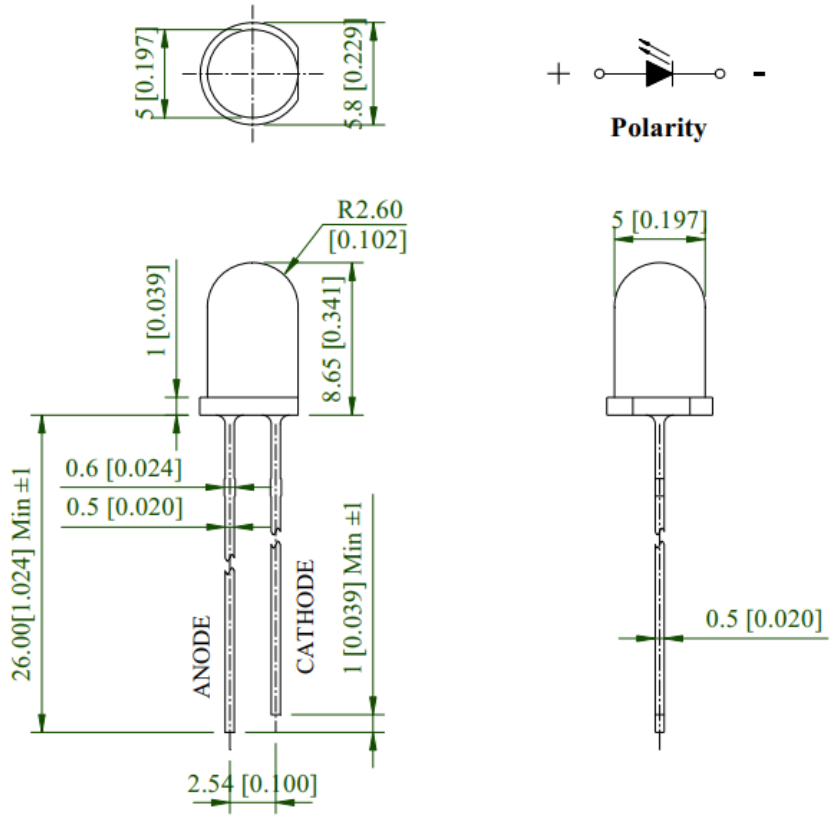
Description:

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.
QBL8R30C	Red	20	2.0	2.6	624	780	1300
QBL8O30C	Orange	20	2.0	2.6	605	1300	2200
QBL8Y30C	Yellow	20	2.0	2.6	590	600	1000
QBL8AG30C	Yellow Green	20	2.0	2.6	573	270	460
QBL8IG30C	True Green	20	3.2	3.6	525	14000	23000
QBL8IB30C	Blue	20	3.2	3.6	470	2900	5000

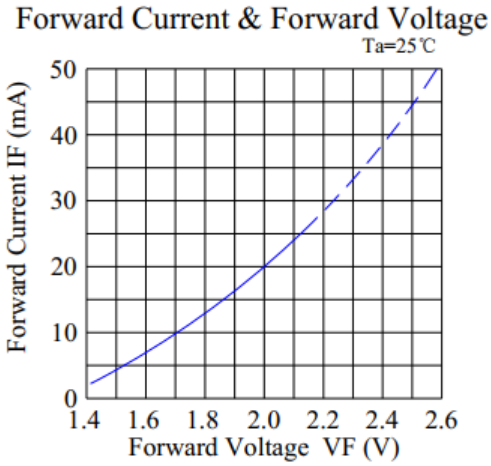
Absolute Maximum Rating

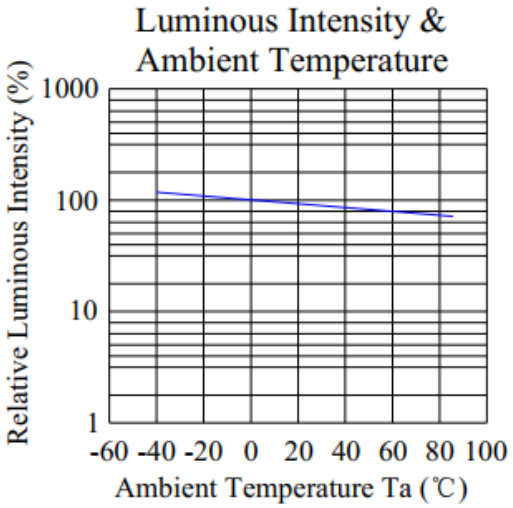
Material	P_d (mW)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)
AlInGaP	65	25	100	5	-40 ~ +85	-40 ~ +100
InGaN	95	25	100	5	-40 ~ +85	-40 ~ +100

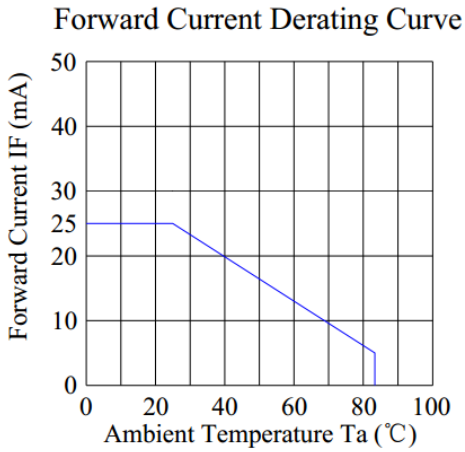
*1/10 Duty Cycle, 0.1ms Pulse Width

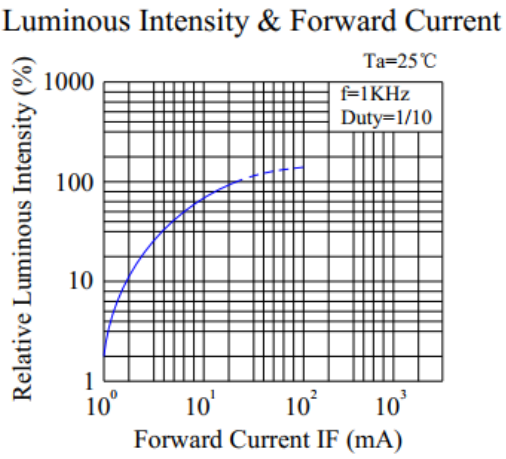
Characteristic Curves

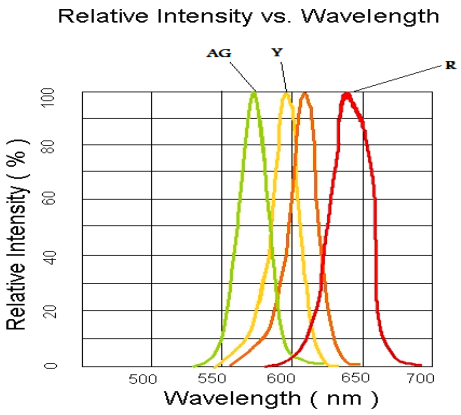
AlInGaP

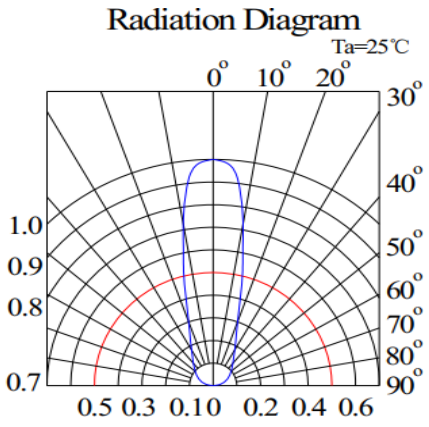




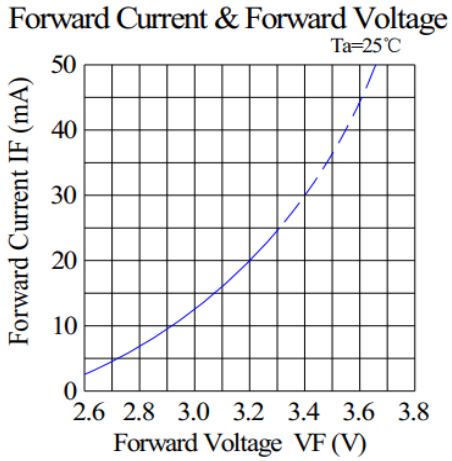


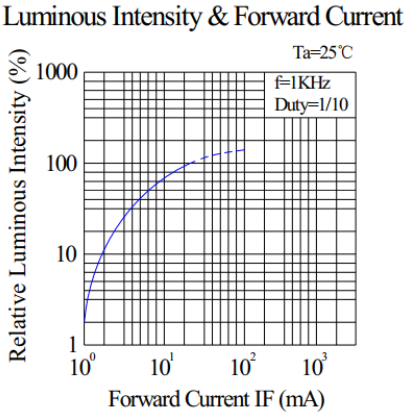


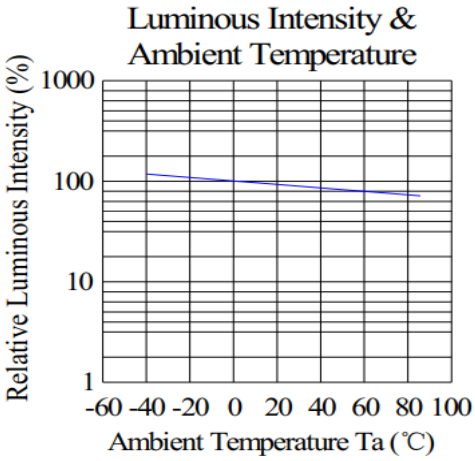


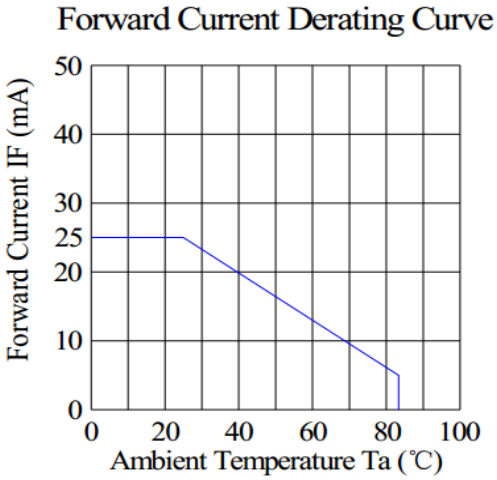


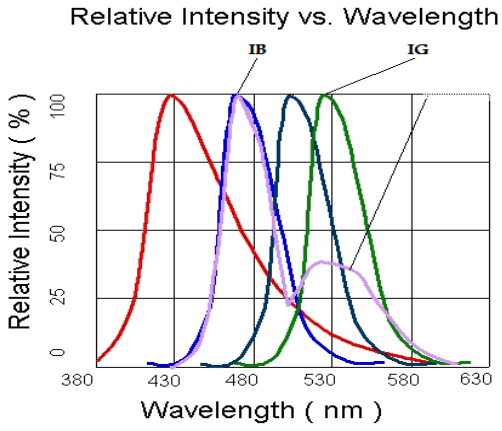
InGaN

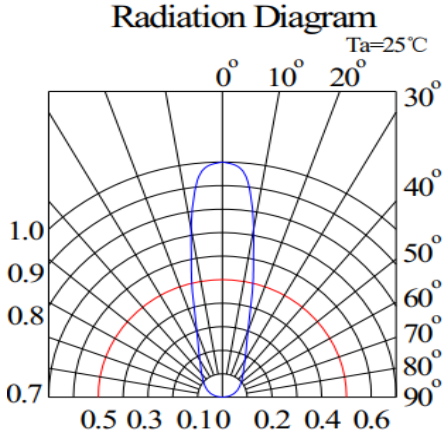

Forward Current & Forward Voltage
Ta=25℃
Forward Current IF (mA)
50
40
30
20
10
0
2.6 2.8 3.0 3.2 3.4 3.6 3.8
Forward Voltage VF (V)


Luminous Intensity & Forward Current
Ta=25℃
f=1KHz
Duty=1/10
Relative Luminous Intensity (%)
1000
100
10
1
10^0 10^1 10^2 10^3
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
QBL8R30C	QBL8R30C	Iv=1300mcd typ. @ 20mA, λ_D=624nm typ.	500pcs
QBL8O30C	QBL8O30C	Iv=2200mcd typ. @ 20mA, λ_D=605nm typ.	500pcs
QBL8Y30C	QBL8Y30C	Iv=1000mcd typ. @ 20mA, λ_D=590nm typ.	500pcs
QBL8AG30C	QBL8AG30C	Iv=460mcd typ. @ 20mA, λ_D=573nm typ.	500pcs
QBL8IG30C	QBL8IG30C	Iv=23000mcd typ. @ 20mA, λ_D=525nm typ.	500pcs
QBL8IB30C	QBL8IB30C	Iv=5000mcd typ. @ 20mA, λ_D=470nm typ.	500pcs

Revision History

Description:	Revision #	Revision Date
New Release of QBL8XX30C_series	V1.0	06/25/2011
Update format	V1.1	09/19/2012
Update spec, dimension drawing and binning	V2.0	12/04/2015
Update spec and format	V3.0	01/22/2018

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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.