

# **QT-Brightek Lamp Series**

## **10mm Round LED**

**Part No.: QBL13XX20C**

**XX: Color Code**

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## Introduction

### Feature:

- Clear lens
- Package in bulk pack
- 10mm round lamp
- AllnGaP technology for R/Y/O/AG
- InGaN technology for IG/IB
- Viewing angle: 20° typ.

### Description:

These bright 10mm round type lamps are suitable for all indicator applications such as electronic signs and electronic board indicators.

### Application:

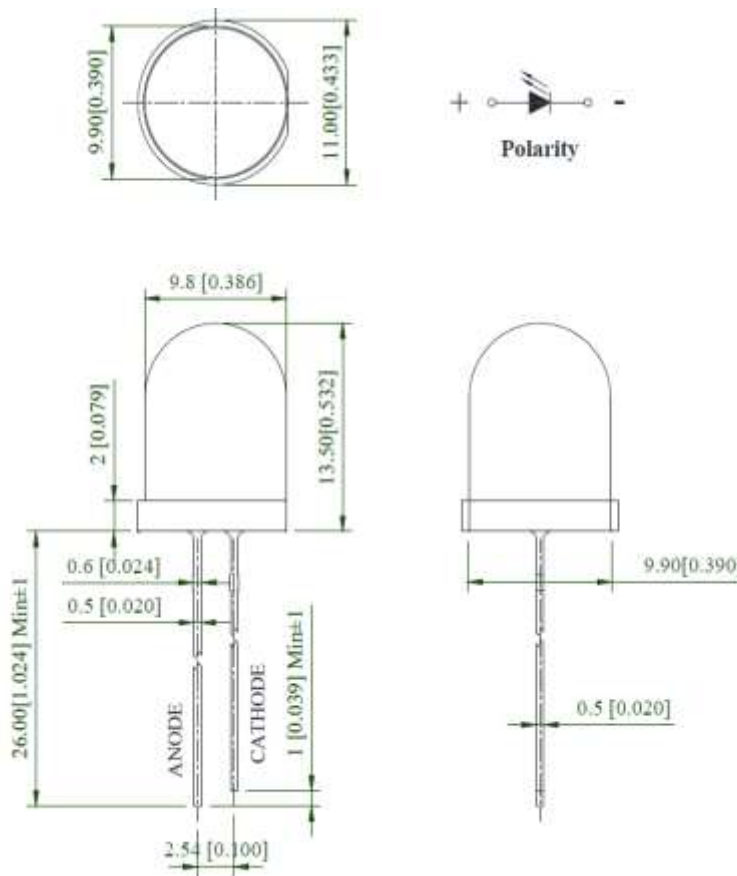
- General purpose indicator application
- Electronic signs and electronics board

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



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

**Electrical / Optical Characteristic (Ta=25°C)**

Product	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)	I <sub>V</sub> (mcd)	
			Typ.	Max.	Typ.	Min.	Typ.
QBL13R20C	Red	20	2.0	2.4	624	1300	2200
QBL13Y20C	Yellow	20	2.0	2.4	592	1700	2900
QBL13O20C	Orange	20	2.0	2.4	610	1300	2200
QBL13AG20C	Yellow Green	20	2.0	2.4	570	780	1300
QBL13IG20C	True Green	20	3.2	3.6	525	30000	51000
QBL13IB20C	Blue	20	3.2	3.6	470	5000	8500

**Absolute Maximum Rating**

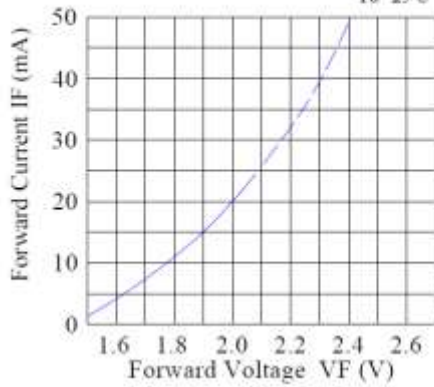
Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)
AllnGaP (R/Y/O/AG)	60	25	100	5	-40 ~ +85	-40 ~ +100
InGaN (IG/IB)	90	25	100	5	-40 ~ +85	-40 ~ +100

\*Duty Factor=10%, Frequency=1kHz

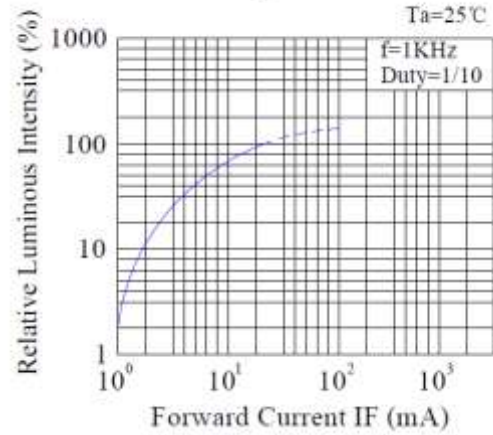
## Characteristic Curves

AllnGaP (AG/O/R/Y)

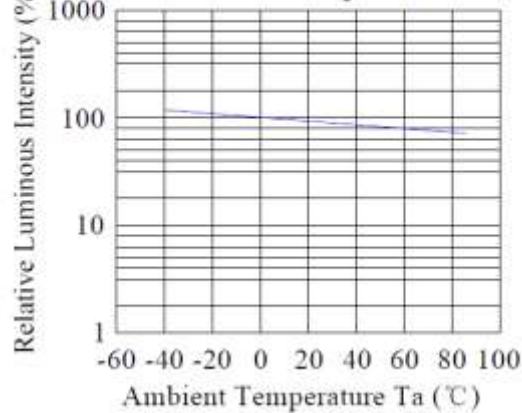
Forward Current & Forward Voltage  
Ta=25°C



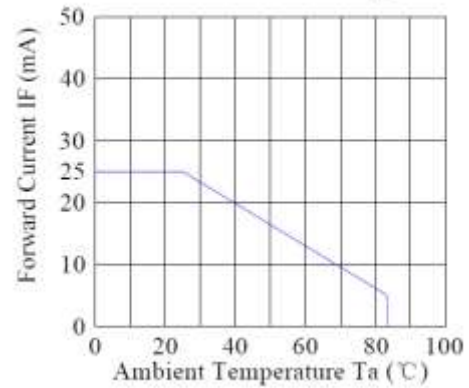
Luminous Intensity & Forward Current  
Ta=25°C



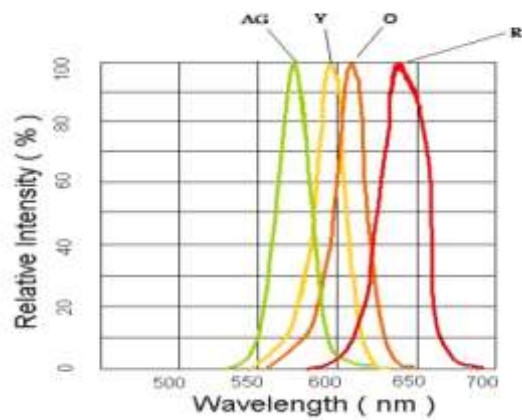
Luminous Intensity & Ambient Temperature



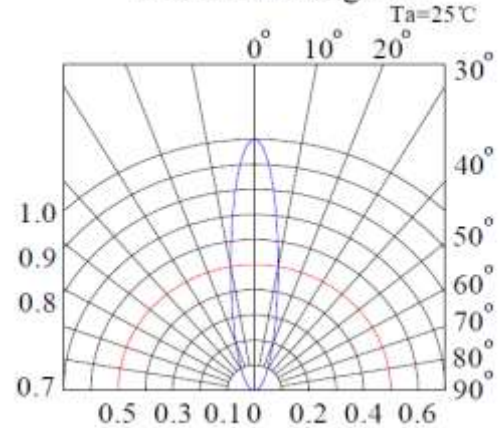
Forward Current Derating Curve



Relative Intensity vs. Wavelength

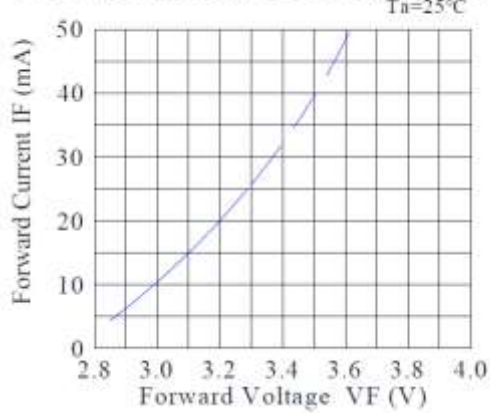


Radiation Diagram  
Ta=25°C

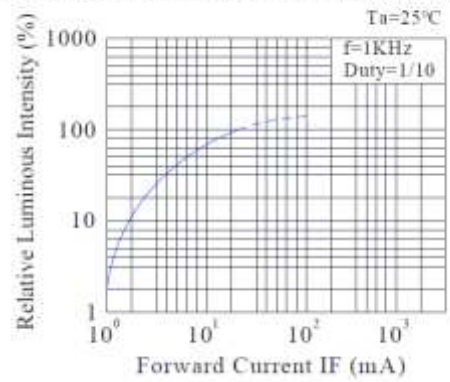


InGaN (IG/IB)

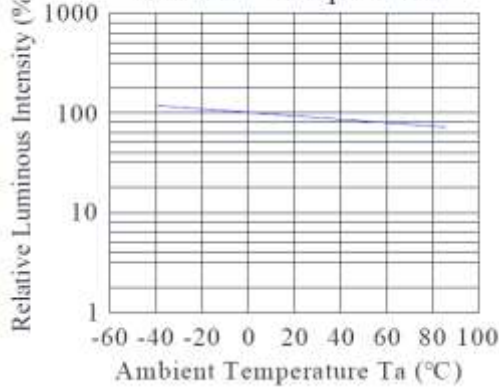
Forward Current & Forward Voltage



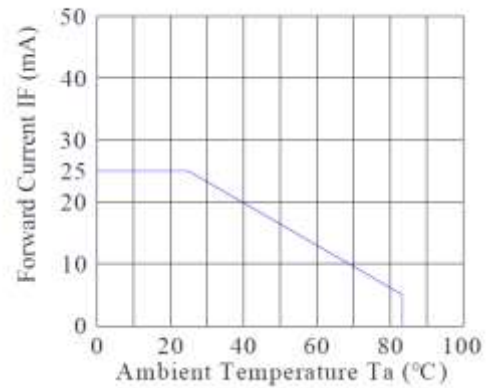
Luminous Intensity & Forward Current



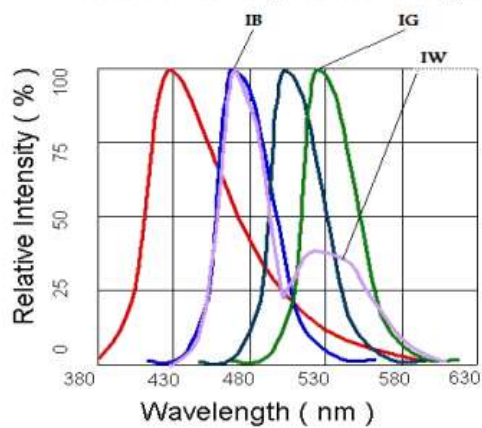
Luminous Intensity & Ambient Temperature



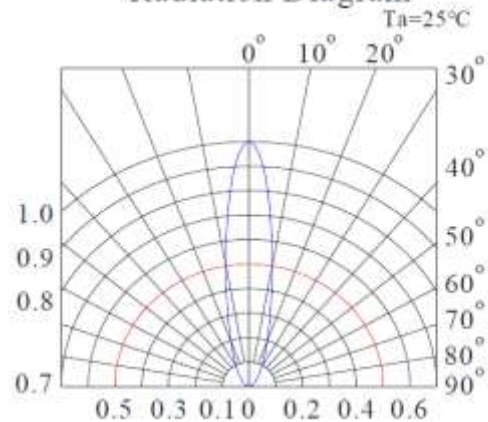
Forward Current Derating Curve



Relative Intensity vs. Wavelength



Radiation Diagram



**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per bag
QBL13R20C	QBL13R20C	Iv=2200mcd typ. @ 20mA, $\lambda_D=624\text{nm}$ typ.	300pcs
QBL13Y20C	QBL13Y20C	Iv=2900mcd typ. @ 20mA, $\lambda_D=592\text{nm}$ typ.	300pcs
QBL13O20C	QBL13O20C	Iv=2200mcd typ. @ 20mA, $\lambda_D=610\text{nm}$ typ.	300pcs
QBL13AG20C	QBL13AG20C	Iv=1300mcd typ. @ 20mA, $\lambda_D=570\text{nm}$ typ.	300pcs
QBL13IG20C	QBL13IG20C	Iv=51000mcd typ. @ 20mA, $\lambda_D=525\text{nm}$ typ.	300pcs
QBL13IB20C	QBL13IB20C	Iv=8500mcd typ. @ 20mA, $\lambda_D=470\text{nm}$ typ.	300pcs



## Revision History

Description:	Revision #	Revision Date
New Release of QBL13XX20C	V1.0	10/15/2019

## 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.