QT-Brightek Lamp Series

5mm RGB Tri-Color Round Lamp

Part No.: QBL8RGB60D0-2897

2897: High Brightness Version
D: White Diffused Lens
0: Common Anode

Table of Contents:

Introduction

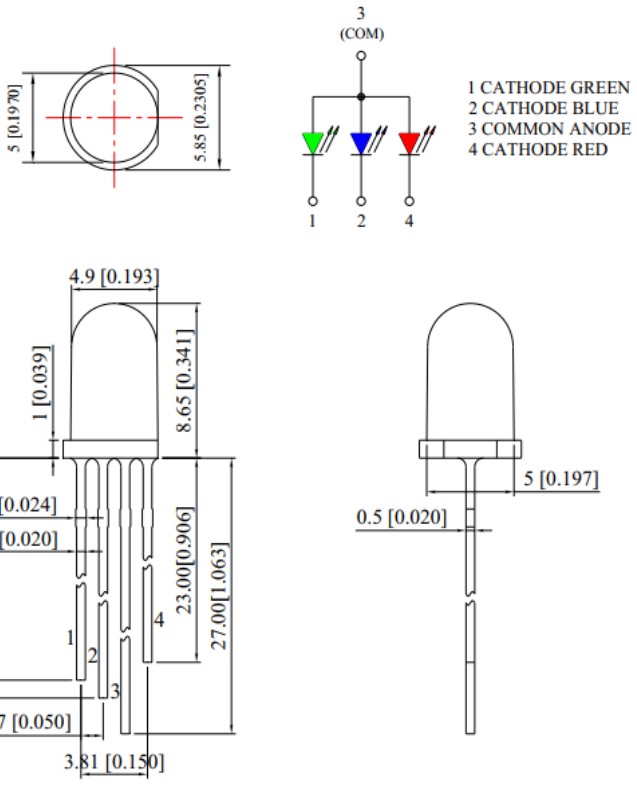
Feature:
- White diffused lens
- Tri-Color (RGB)
- Package in bulk pack
- Super bright 5mm round lamp
- InGaN technology for IB/IG
- AllnGaP technology for R
- Viewing angle: 60° typ.
- 0: Common Anode

Description:
These super bright 5mm round type lamps with 8.65mm lens height are suitable for all applications requiring higher brightness.

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

Certification & Compliance:
- TS16949
- ISO9001
- RoHS Compliant

Dimension:



Units: mm / Unidentified tolerance = +/-0.25mm

Electrical / Optical Characteristic (T=25 °C)

Product	Color	I_F (mA)	V_F (V)		λ_D (nm)			I_V (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBL8RGB60D0-2897	Red	20	2.0	2.4	-	624	-	800	1300
	Green		3.2	3.6	-	525	-	1600	2200
	Blue		3.2	3.6	-	470	-	500	800

Absolute Maximum Rating

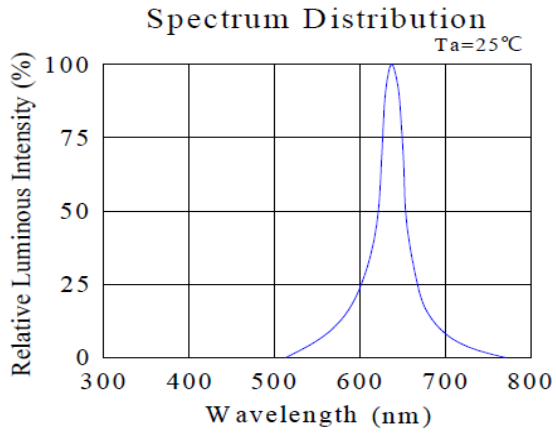
Material	P_d (mW)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)	T_{SOL} (°C)**
AlInGaP (R)	60	25	100	5	-40 to + 85	-40 to +100	260
InGaN (IB/IG)	90	25	100	5	-40 to + 85	-40 to +100	260

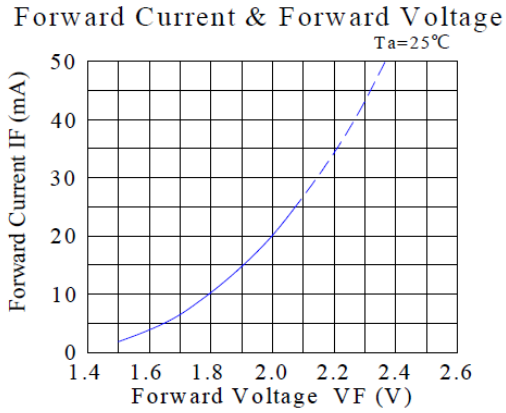
*Duty 1/10 @ 1KHz

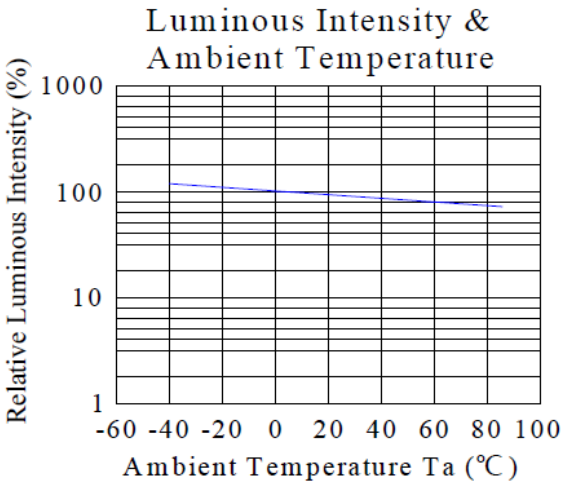
**Wave soldering for no more than 5 sec @ 260 °C

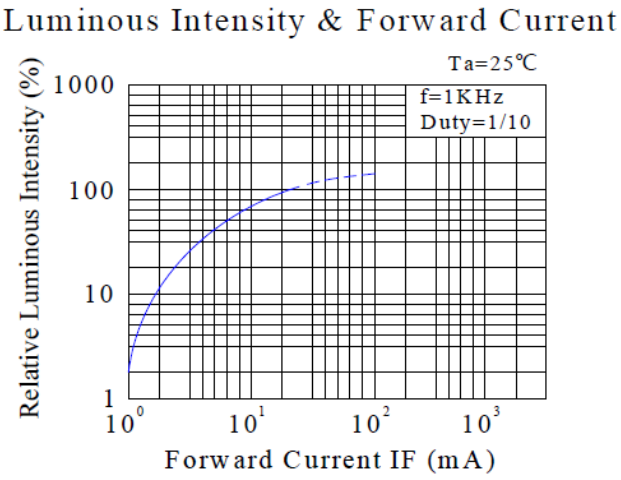
Characteristic Curves

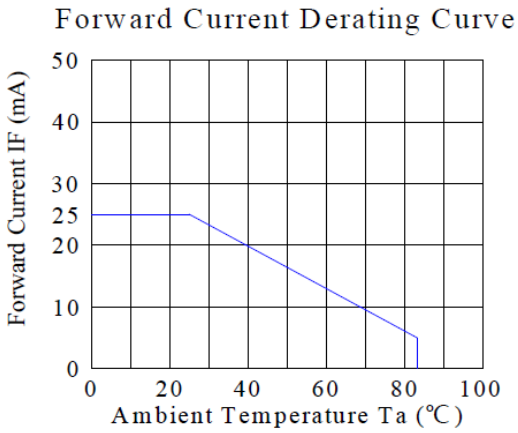
Red (R)

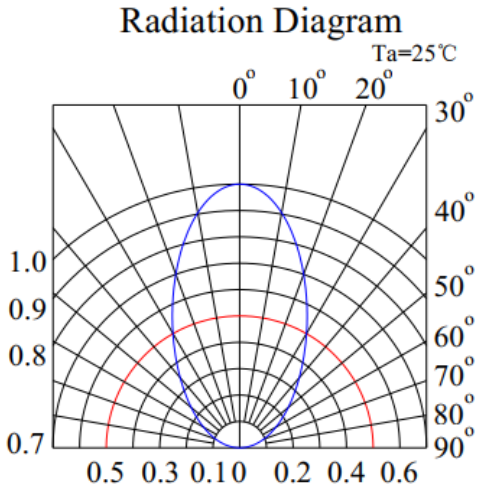




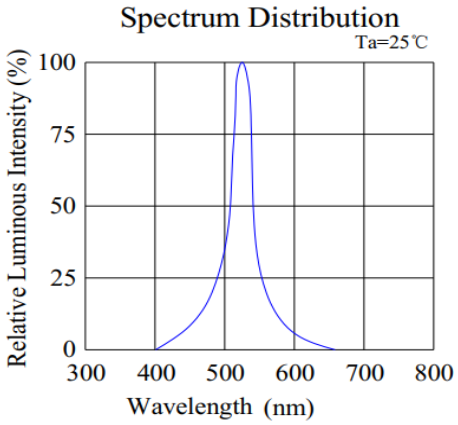


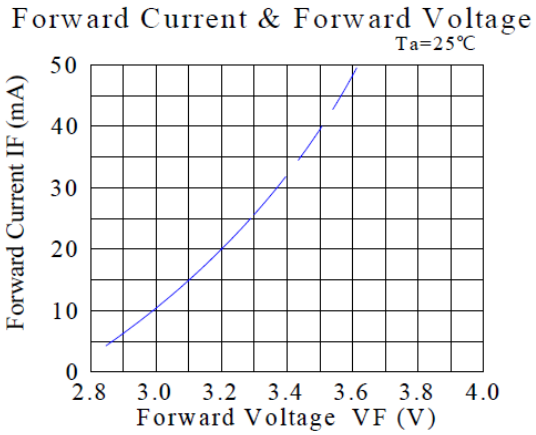


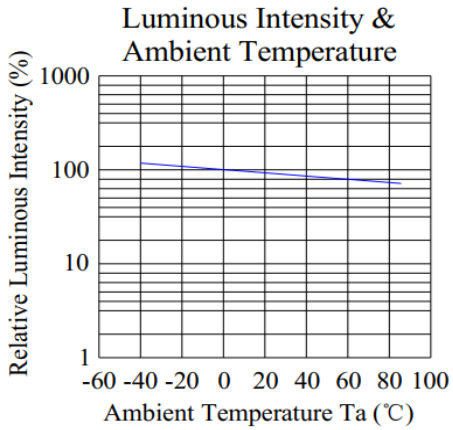


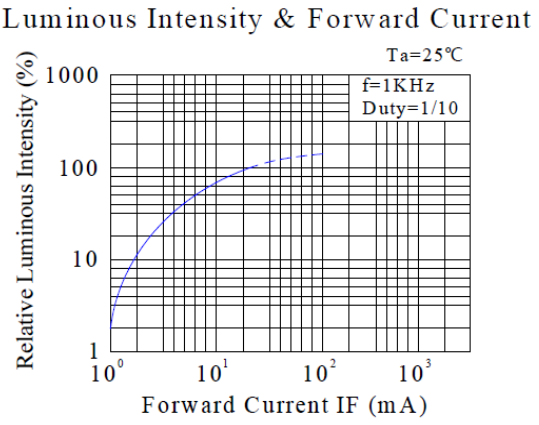


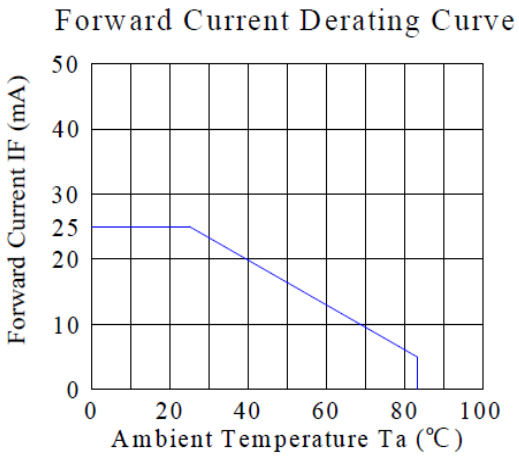
Green (IG)

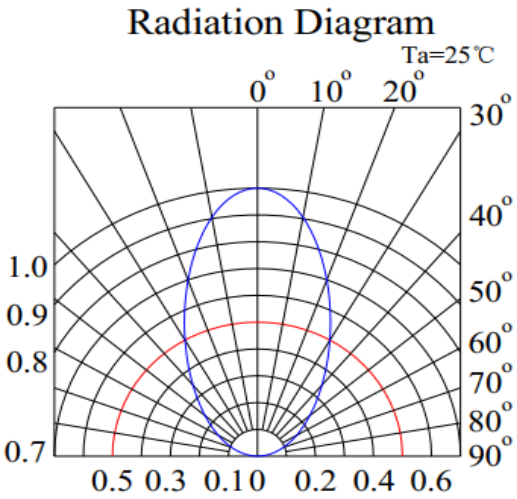

Spectrum Distribution
Ta=25℃
Relative Luminous Intensity (%)
100
75
50
25
0
300 400 500 600 700 800
Wavelength (nm)


Forward Current & Forward Voltage
Ta=25℃
Forward Current IF (mA)
50
40
30
20
10
0
2.8 3.0 3.2 3.4 3.6 3.8 4.0
Forward Voltage VF (V)


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

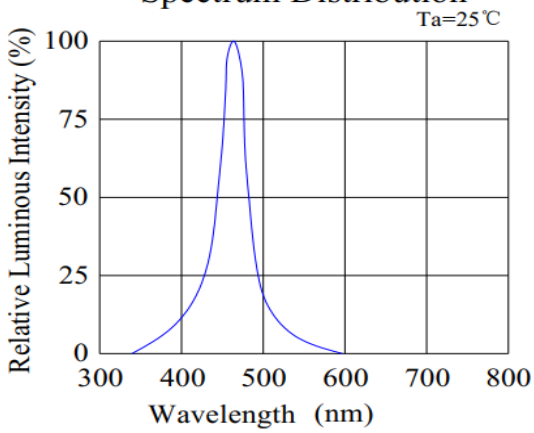

Luminous Intensity & Forward Current
Ta=25℃
f=1KHz
Duty=1/10
Relative Luminous Intensity (%)
1000
100
10
1
10^0 10^1 10^2 10^3
Forward Current IF (mA)


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

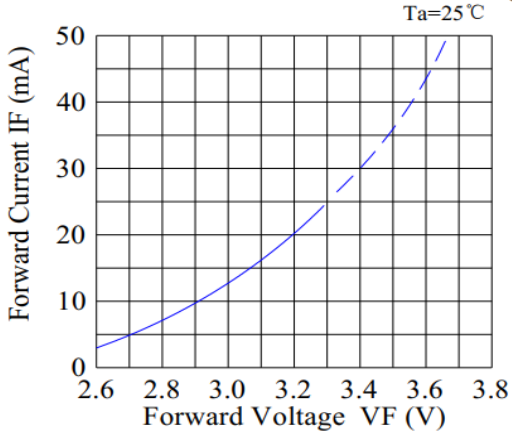

Radiation Diagram
Ta=25℃
0° 10° 20°
30°
40°
50°
60°
70°
80°
90°
1.0
0.9
0.8
0.7
0.5 0.3 0.10 0.2 0.4 0.6

Blue (IB)

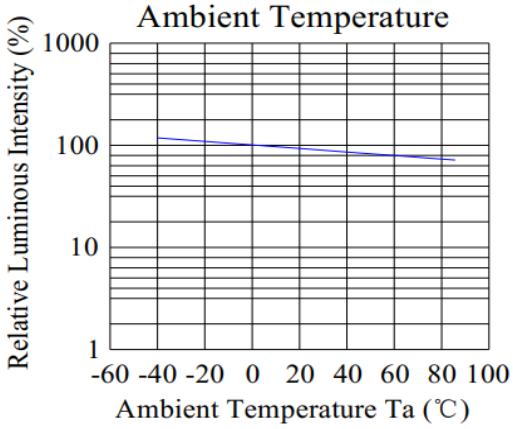
Spectrum Distribution



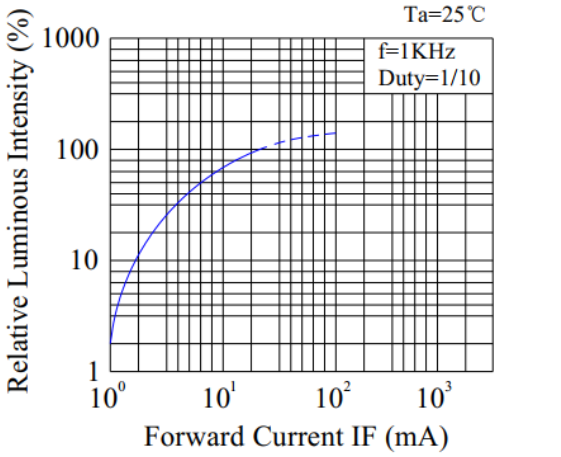
Forward Current & Forward Voltage



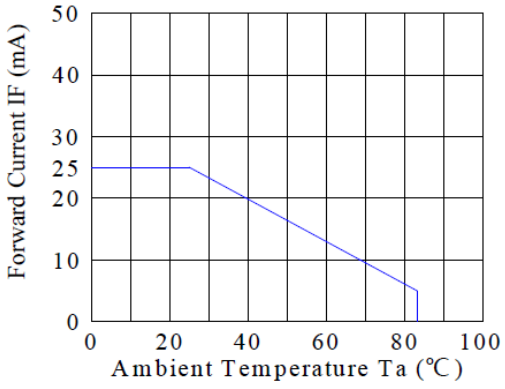
Luminous Intensity & Ambient Temperature



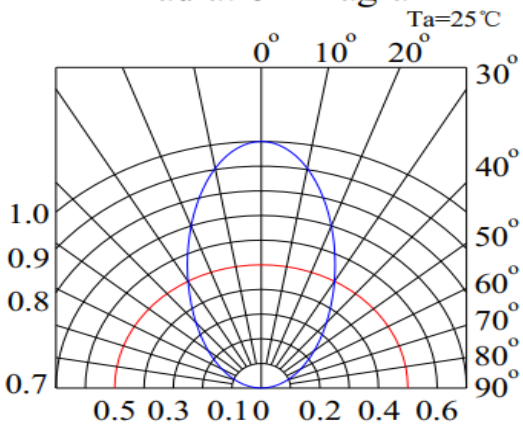
Luminous Intensity & Forward Current



Forward Current Derating Curve



Radiation Diagram



Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per bag
QBL8RGB60D0-2897	QBL8RGB60D0-2897	Red: Iv=1300mcd typ. @ I_F=20mA, λ_D=624nm typ.	1000pcs
		Green: Iv=2200mcd typ. @ I_F=20mA, λ_D= 525nm typ.	
		Blue: Iv=800mcd typ. @ I_F=20mA, λ_D=470nm typ.	

Revision History

Description:	Revision #	Revision Date
New Release of QBL8RGB60D0-2897	V1.0	04/23/2019

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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.