

# **QT-Brightek Display Series**

## **0.30" Single Digit Display**

**Part No.: QBSLDXX30ZGR**

**XX= Color**

**Z= 1: Common Cathode**

**Z = 0: Common Anode**

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## Introduction

**Feature:**

- 0.30" Single digit seven segments display
- Low power consumption
- AllInGaP Technology R/O/S/AG/Y
- InGaN Technology IB/IG
- Z= 1: Common Cathode or 0:Common Anode
- XX= color
- Grey Face

**Description:**

These 0.30" Single-digit, seven-segment displays are made with white segments and a grey surface. The viewing distance is up to seven meters.

**Application:**

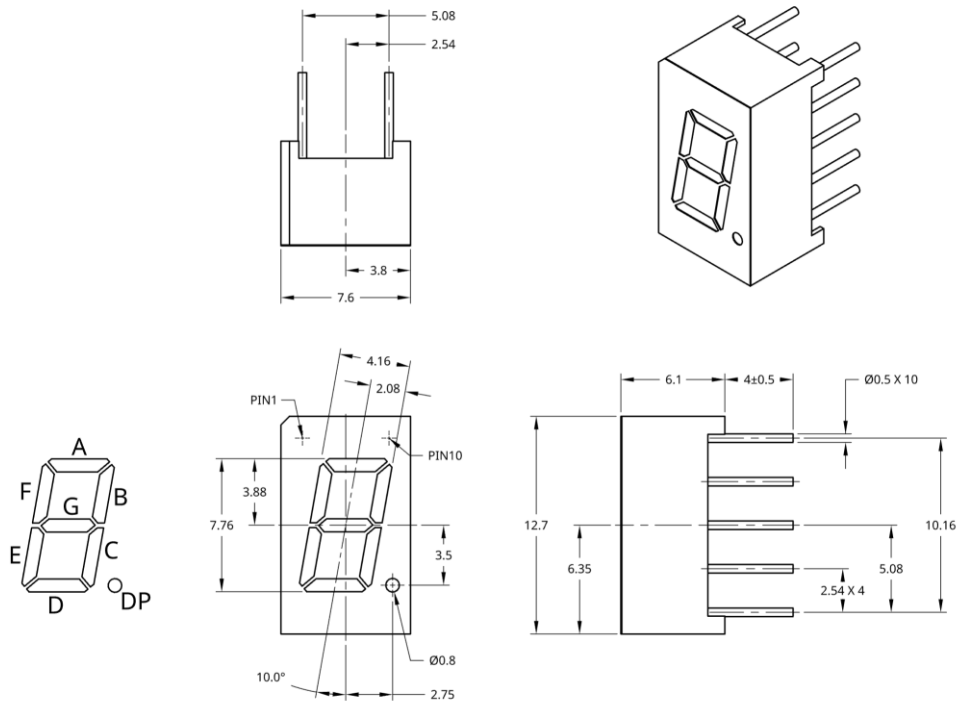
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

**Certification & Compliance:**

- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.25mm

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

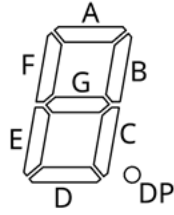
Product		Material	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)	λ <sub>P</sub> (nm)	I <sub>V</sub> (mcd)
CC	CA				Typ.	Max.	Typ.	Typ.	Typ.
QBSLDR301GR	QBSLDR300GR	AllnGaP	Red	20	2.0	2.4	624	632	25@10mA 50@20mA
QBSLDS301GR	QBSLDS300GR	AllnGaP	Red	20	2.0	2.4	640	660	6@10mA 12@20mA
QBSLDO301GR	QBSLDO300GR	AllnGaP	Orange	20	2.0	2.4	605	610	12@10mA 24@20mA
QBSLDAG301GR	QBSLDAG300GR	AllnGaP	Yellow-Green	20	2.0	2.4	572	575	7@10mA 14@20mA
QBSLDY301GR	QBSLDY300GR	AllnGaP	Yellow	20	2.0	2.4	590	593	11@10mA 22@20mA
QBSLDIG301GR	QBSLDIG300GR	InGaP	Green	20	3.0	3.2	525	520	42@10mA 84@20mA
QBSLDIB301GR	QBSLDIB300GR	InGaP	Blue	20	3.0	3.2	470	468	23@10mA 46@20mA

### Absolute Maximum Rating

Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>PF</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)
AllnGaP	48	20	40	5	-40 to +80	-40 to +85
InGaP	64	20	40	5	-40 to +80	-40 to +85

\*Duty 1/10 @ 1KHz

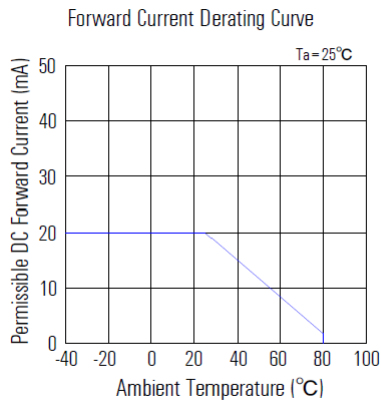
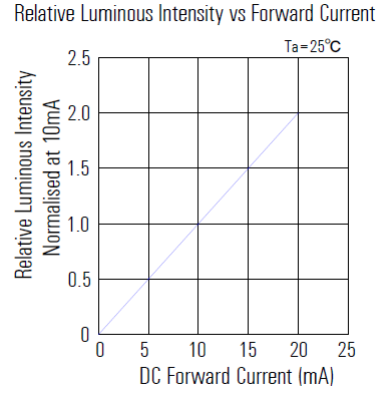
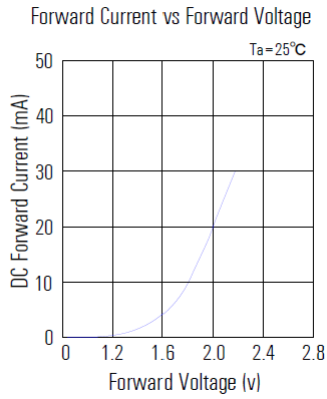
**Pin Configuration**



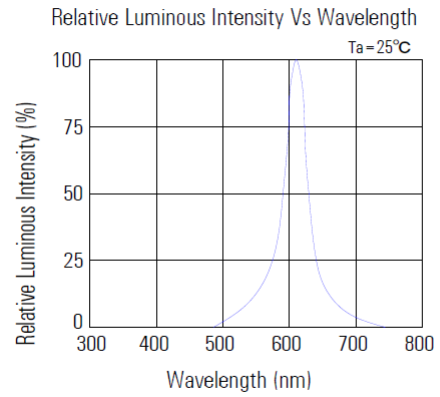
Common Cathode (QBSLDXX301GR)	Common Anode (QBSLDXX300GR)
<p>Circuit diagram for the Common Cathode configuration. The cathodes of all seven LEDs (A, B, C, D, E, F, G) and the DP LED are connected to a common bus. This bus is connected to pins 1 and 6. The anodes are connected to pins 10, 9, 8, 5, 4, 2, 3, and 7 respectively.</p>	<p>Circuit diagram for the Common Anode configuration. The anodes of all seven LEDs (A, B, C, D, E, F, G) and the DP LED are connected to a common bus. This bus is connected to pins 1 and 6. The cathodes are connected to pins 10, 9, 8, 5, 4, 2, 3, and 7 respectively.</p>

**Characteristic Curves**

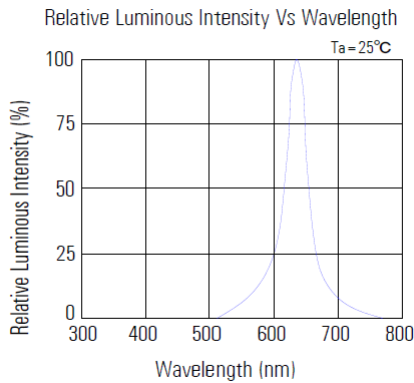
AllnGaP (R/O/AG)



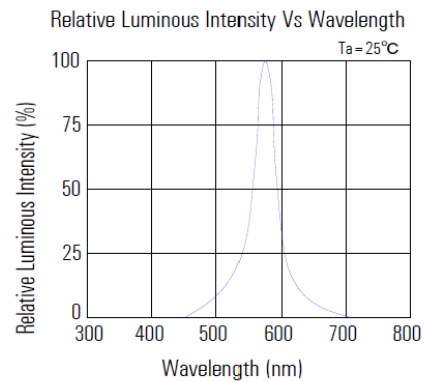
**O(Orange)**



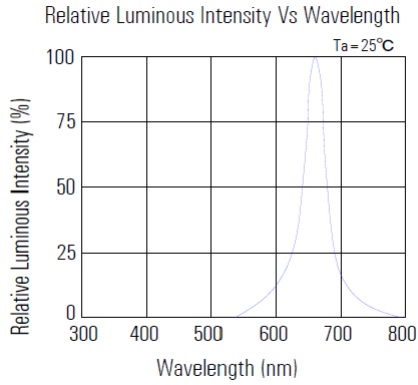
**R(Red)**



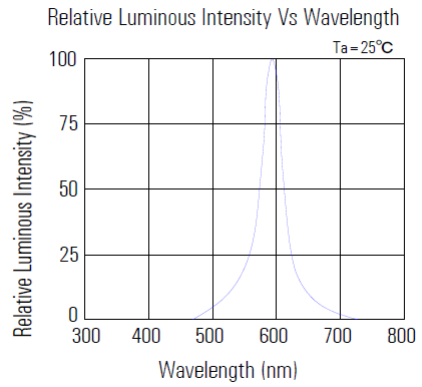
**AG(Green)**



### S(Deep Red)

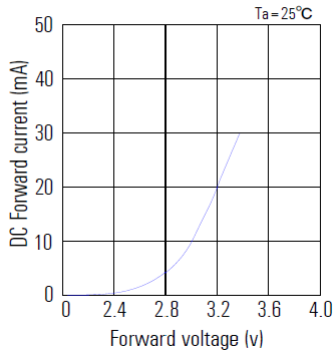


### Y(Yellow)

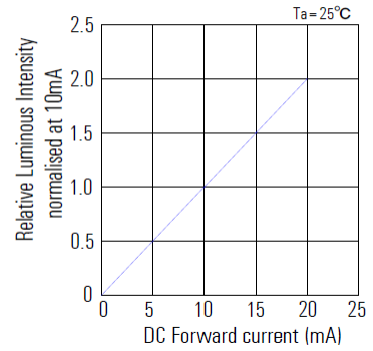


## InGaN (IG/IB)

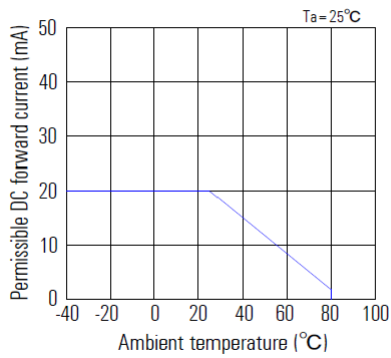
Forward Current vs Forward Voltage



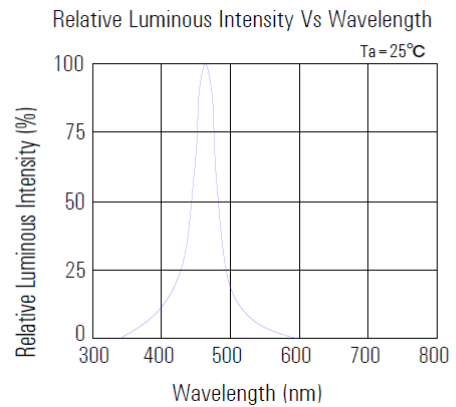
Relative Luminous Intensity vs Forward Current



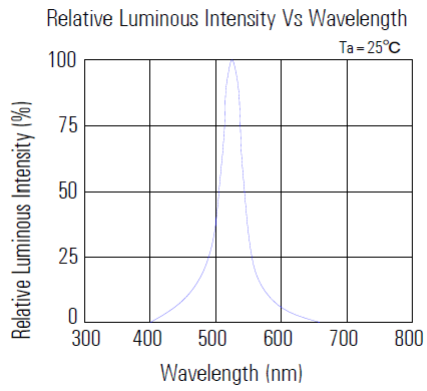
Forward Current Derating Curve



### IB(Blue)



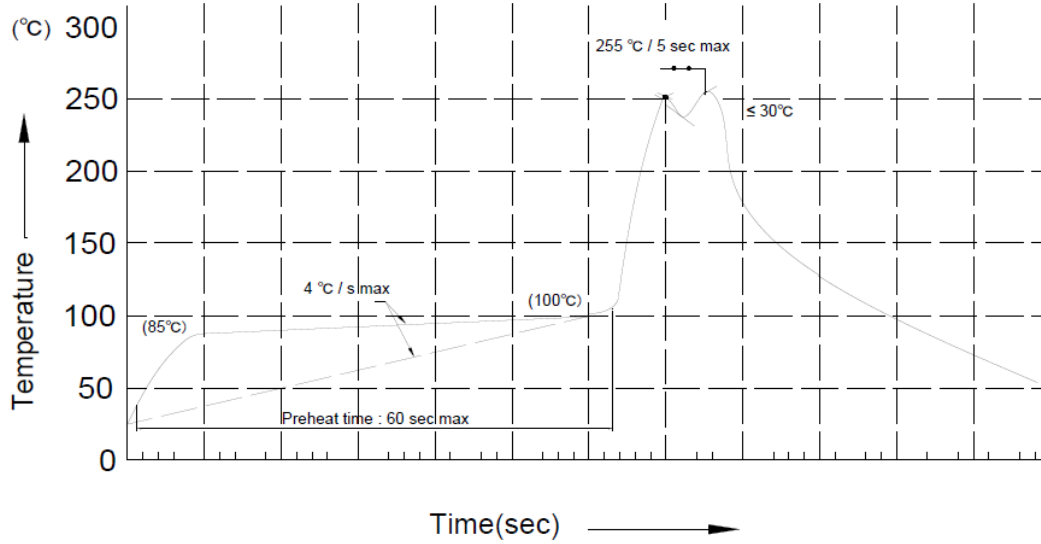
**IG(Ture Green)**



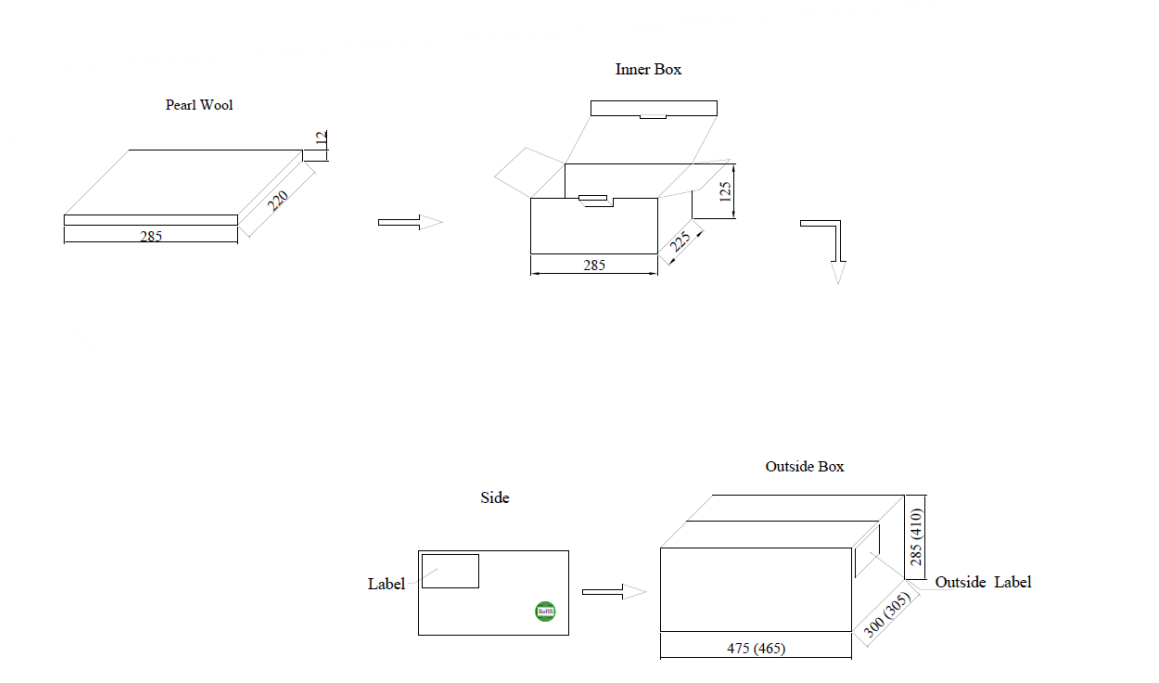


**Solder Profile**

**Recommended Solder Profile**



**Packing**



Unit: cm

Product: QBSLDXX30ZGR_series	Date: July 21, 2023	Page 10 of 12
	Version# 1.0	

**Ordering Information**

Product		Spec Range	Quality per foam
CC	CA		
QBSLDR301GR	QBSLDR300GR	I <sub>v</sub> =50mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =624nm typ.	495
QBSLDS301GR	QBSLDS300GR	I <sub>v</sub> =12mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =640nm typ.	495
QBSLDO301GR	QBSLDO301GR	I <sub>v</sub> =24mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =605nm typ.	495
QBSLDAG301GR	QBSLDAG301GR	I <sub>v</sub> =14mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =572nm typ.	495
QBSLDY301GR	QBSLDY300GR	I <sub>v</sub> =22mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =590nm typ.	495
QBSLDIG301GR	QBSLDIG300GR	I <sub>v</sub> =84mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =525nm typ.	495
QBSLDIB301GR	QBSLDIB300GR	I <sub>v</sub> =46mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =470nm typ.	495

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## Revision History

Description:	Revision #	Revision Date
New Release of QBSLDXX30ZGR_series	V1.0	07/21/2023



## Disclaimer

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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.