

# QT-Brightek Display Series

## 0.39" Single Digit Display

**Part No.: QBS39XXZ**

**XX= Color**

**Z= 1: Common Cathode**

**Z = 0: Common Anode**

---

**Table of Contents:**

Introduction .....	3
Electrical / Optical Characteristic (Ta=25 °C) .....	4
Absolute Maximum Rating .....	4
Pin Configuration .....	5
Characteristic Curves.....	6
Solder Profile .....	8
Packing .....	9
Ordering Information .....	10
Revision History .....	11
Disclaimer .....	11

## Introduction

**Feature:**

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

**Description:**

These 0.39" Single-digit, seven-segment displays are made with white segments and a grey surface. The viewing distance is up to seven meters.

**Application:**

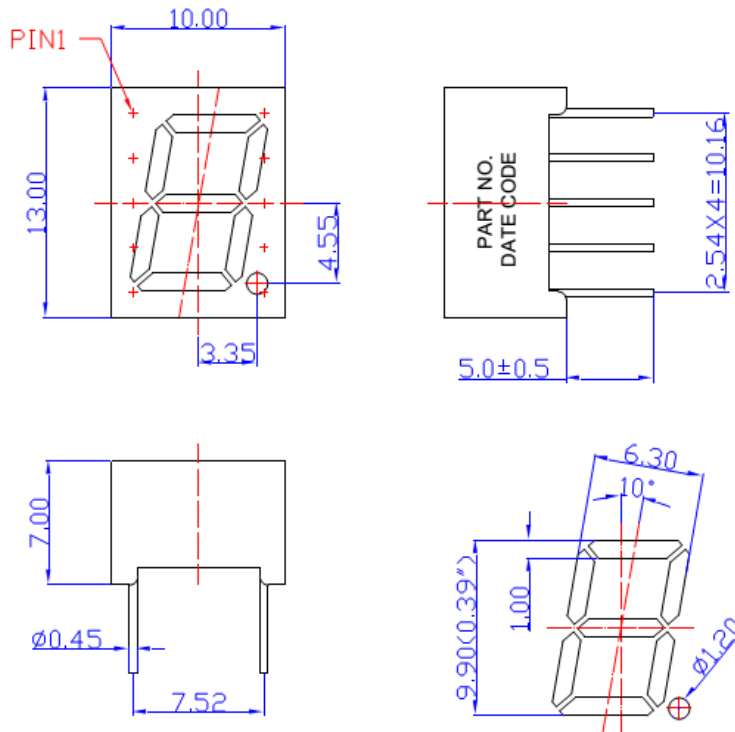
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.25mm

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

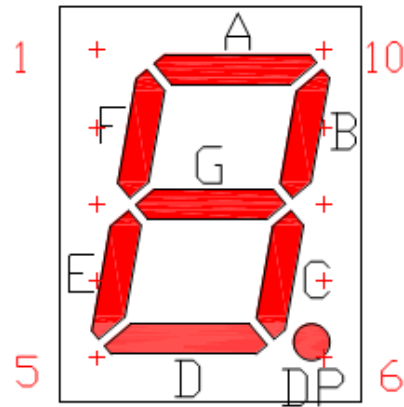
Product		Material	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.
QBS39R1	QBS39R0	AllnGaP	Red	20	2.0	2.6	-	624	-	40
QBS39S1	QBS39S0	AllnGaP	Deep Red	20	2.0	2.6	-	639	-	25
QBS39Y1	QBS39Y0	AllnGaP	Yellow	20	2.0	2.6	-	590	-	40
QBS39O1	QBS39O0	AllnGaP	Orange	20	2.0	2.6	-	606	-	40
QBS39AG1	QBS39AG0	AllnGaP	Yellow Green	20	2.0	2.6	-	571	-	10
QBS39IG1	QBS39IG0	InGaN	True Green	20	3.2	4.0	-	525	-	100
QBS39IB1	QBS39IB0	InGaN	Blue	20	3.2	4.0	-	465	-	40

**Absolute Maximum Rating**

Material	P <sub>d</sub> (mW)	Derating liner from 25 °C per dice (mA/°C)	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	70	0.33	25	90	5	-25 to +85	-25 to +85
InGaN	120	0.4	30	100	5	-25 to +85	-25 to +85

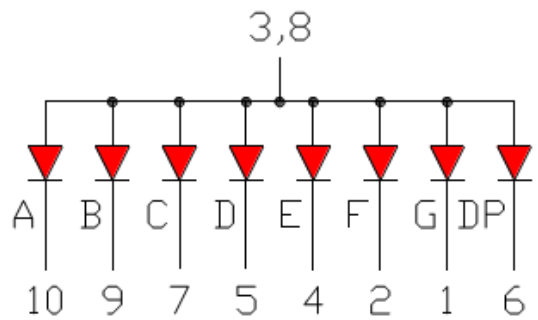
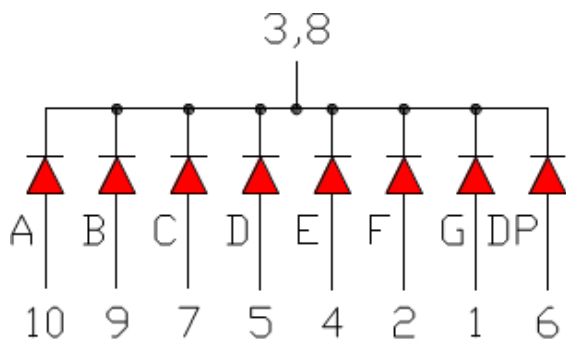
\*Duty 1/10 @ 1KHz

**Pin Configuration**



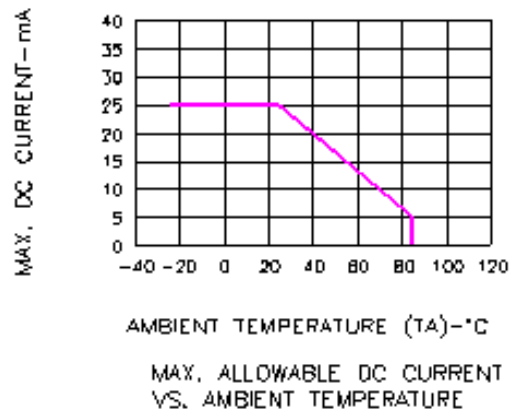
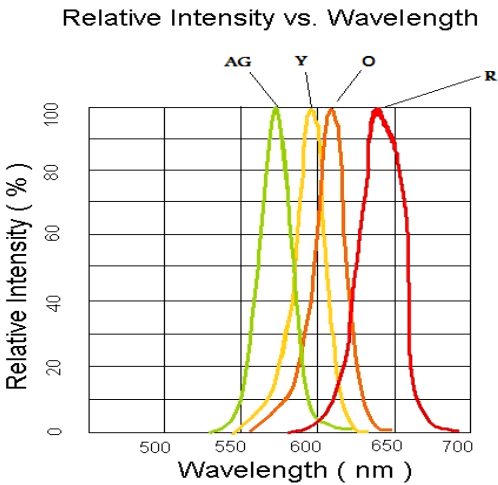
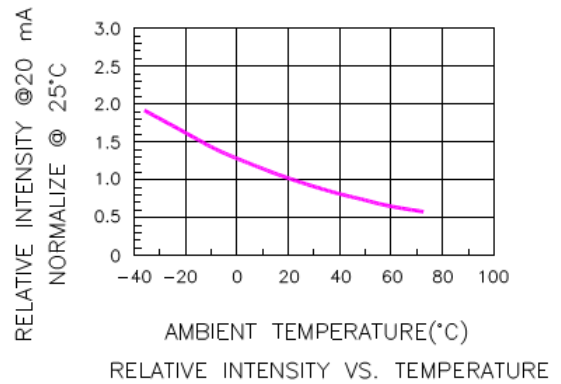
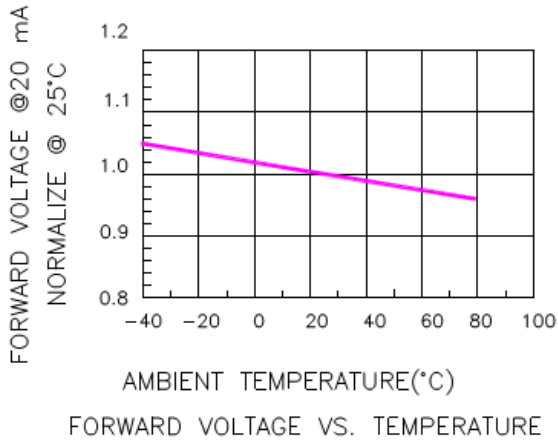
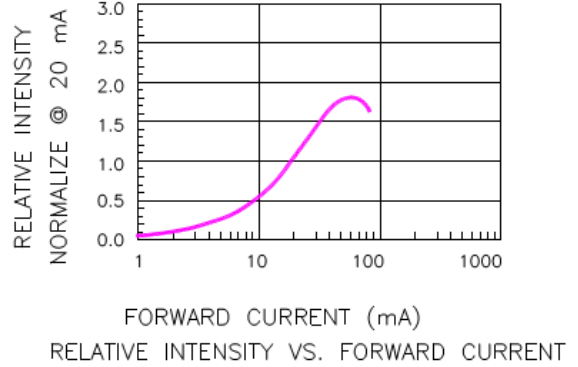
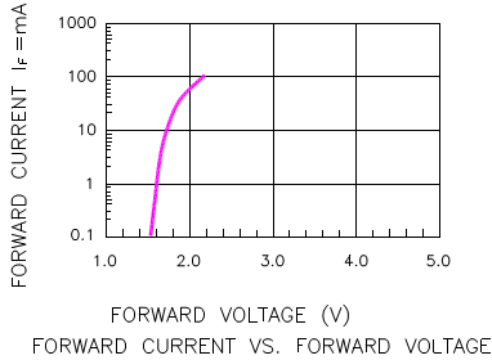
**CC**

**CA**

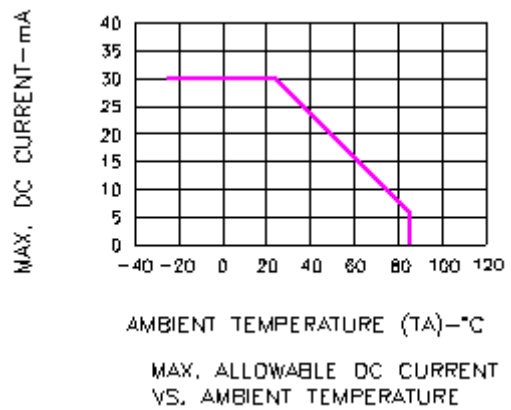
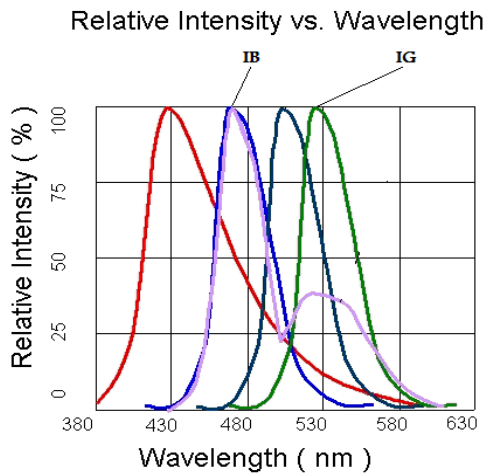
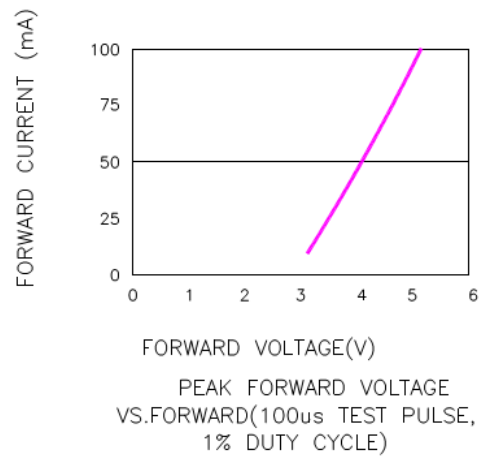
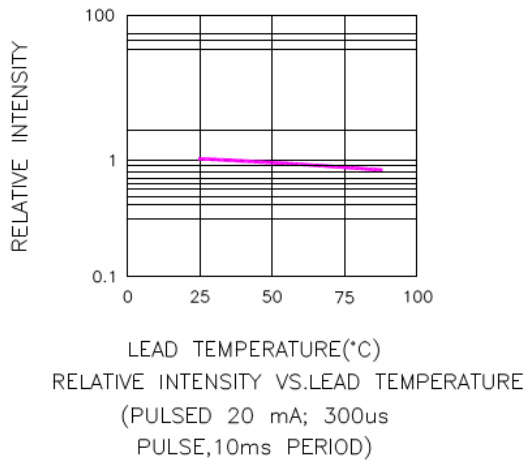
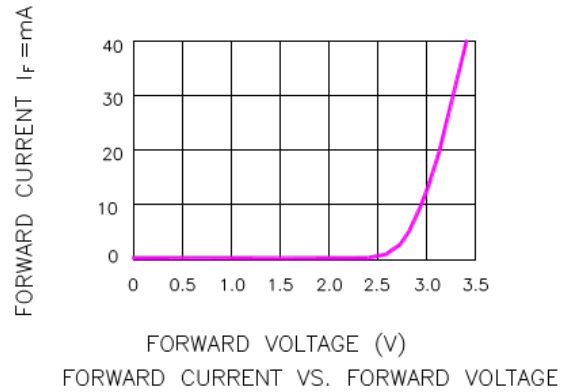
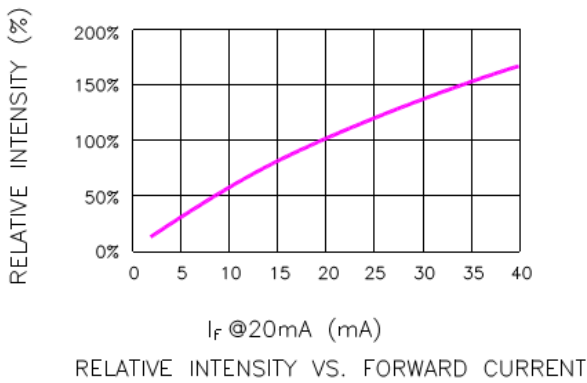


**Characteristic Curves**

AllnGaP

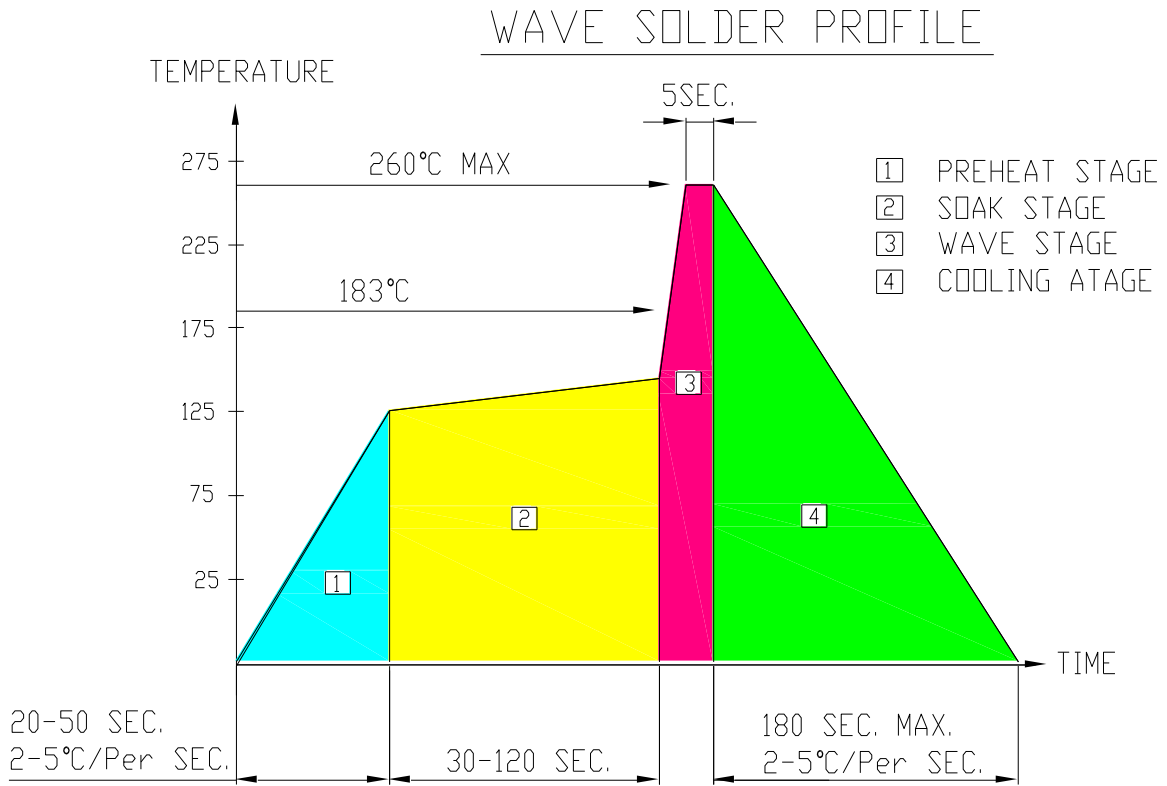


**InGaN**



**Solder Profile**

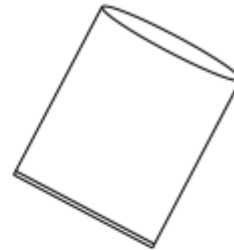
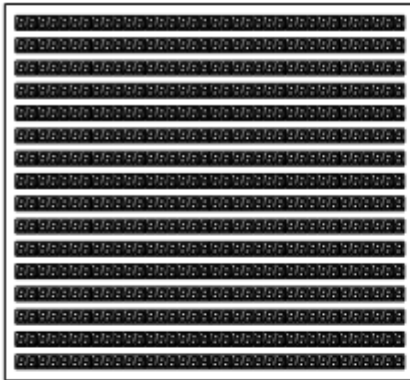
**Recommended Solder Profile**





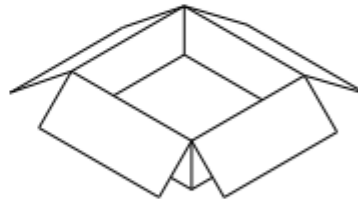
**Packing**

576PCS / 1 White Polyform ( 36 X 16 PCS )



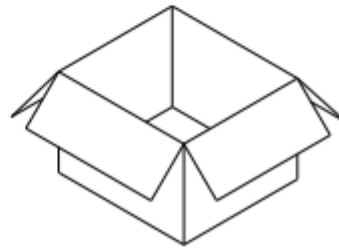
BAG SIZE :450X410X580

6 White Polyform / 1BAG  
3456 PCS /1Inner Carton



INNER BOX SIZE : 394 x 370 x 138 mm

6912 PCS / 2 Inner Carton / 1 Outer Carton



OUTER BOX SIZE : 430 x 390 x 300 mm

**Ordering Information**

Product		Orderable Part #		Spec Range	Quantity per foam
CC	CA	CC	CA		
QBS39R1	QBS39R0	QBS39R1	QBS39R0	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =625nm typ.	576pcs
QBS39S1	QBS39S0	QBS39S1	QBS39S0	I <sub>v</sub> =25mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =639nm typ.	576pcs
QBS39Y1	QBS39Y0	QBS39Y1	QBS39Y0	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =590nm typ.	576pcs
QBS39O1	QBS39O0	QBS39O1	QBS39O0	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =606nm typ.	576pcs
QBS39AG1	QBS39AG0	QBS39AG1	QBS39AG0	I <sub>v</sub> =10mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =571nm typ.	576pcs
QBS39IG1	QBS39IG0	QBS39IG1	QBS39IG0	I <sub>v</sub> =100mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =525nm typ.	576pcs
QBS39IB1	QBS39IB0	QBS39IB1	QBS39IB0	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =465nm typ.	576pcs

---

## Revision History

Description:	Revision #	Revision Date
New Release of QBS39XXZ_series	V1.0	09/20/2010
Information Updates	V2.0	05/04/2011
Amend Part number to QBS39XXZ and information updates	V2.1	06/24/2011
Update spec, add more color options	V2.2	06/25/2015

---

## Disclaimer

QT-BRIGHTTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTTEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

## Life Support Policy

QT-BRIGHTTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTTEK. As used herein:

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.