

# QT-Brightek Through Hole Display Series

## 0.40" Dual Digit Display

**Part No.: QBD40XXZ**

**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

Product: QBS40XXZ_series	Date: August 21, 2015	Page 2 of 11
	Version# 2.3	

## Introduction

**Feature:**

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

**Description:**

These 0.40" Dual-digit, seven-segment displays are made with white segments and a grey surface. The viewing distance is up to seven meters.

**Application:**

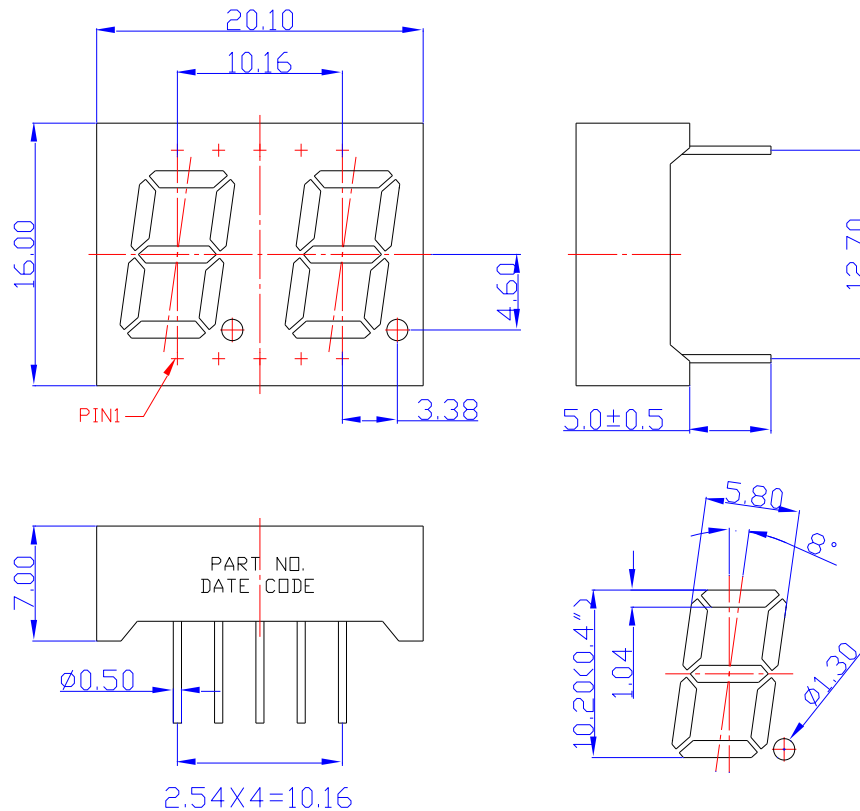
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.25mm

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

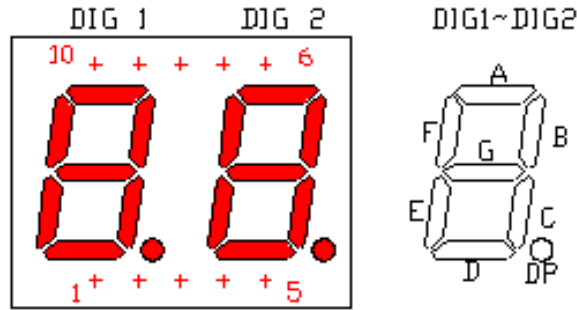
Product		Material	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.
QBD40R1	QBD40R0	AllnGaP	Red	20	2.0	2.6	-	624	-	40
QBD40S1	QBD40S0	AllnGaP	Deep Red	20	2.0	2.6	-	639	-	20
QBD40Y1	QBD40Y0	AllnGaP	Yellow	20	2.0	2.6	-	590	-	40
QBD40O1	QBD40O0	AllnGaP	Orange	20	2.0	2.6	-	606	-	40
QBD40AG1	QBD40AG0	AllnGaP	Yellow Green	20	2.0	2.6	-	571	-	10
QBD40IG1	QBD40IG0	InGaN	True Green	20	3.2	4.0	-	525	-	200
QBD40IB1	QBD40IB0	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

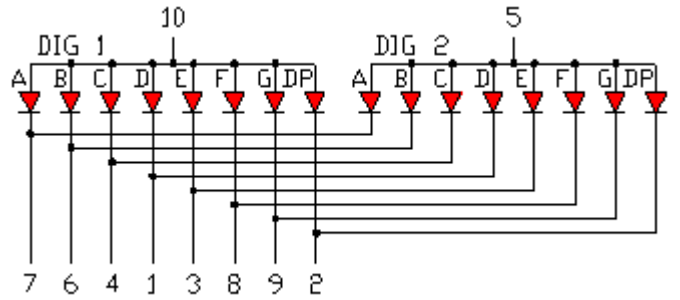
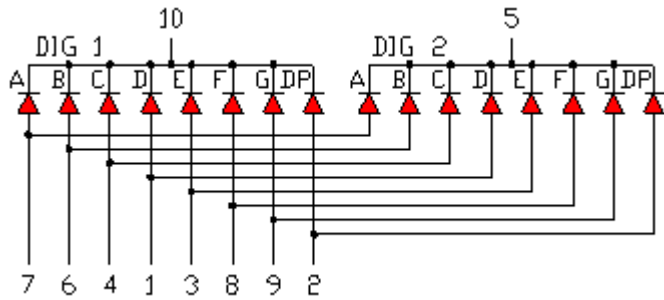
\*Duty 1/10 @ 1KHz

**Pin Configuration**



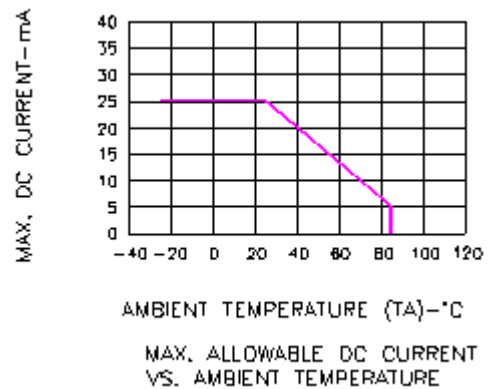
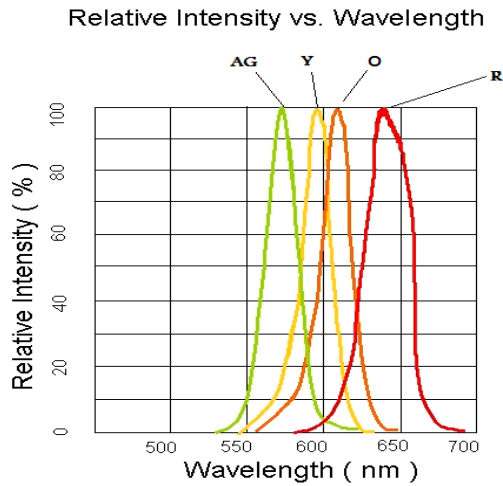
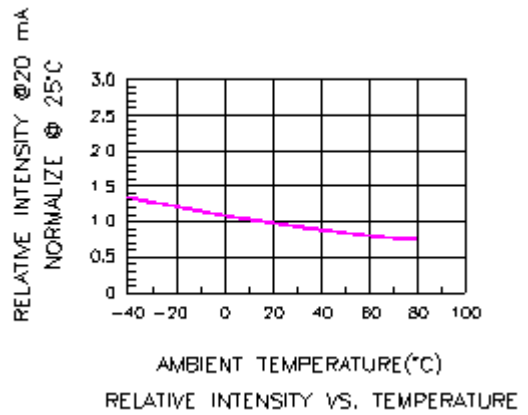
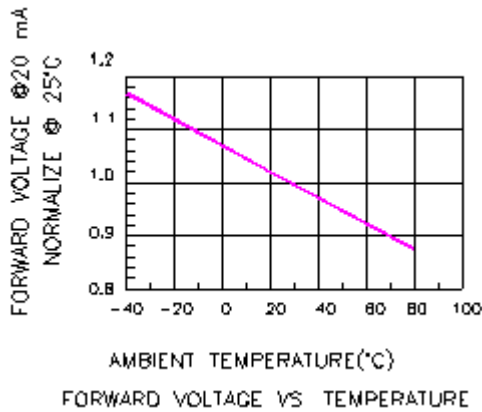
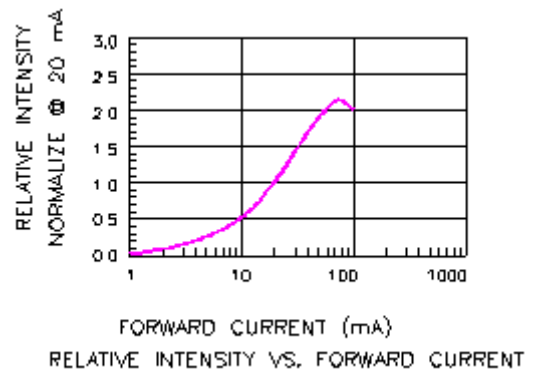
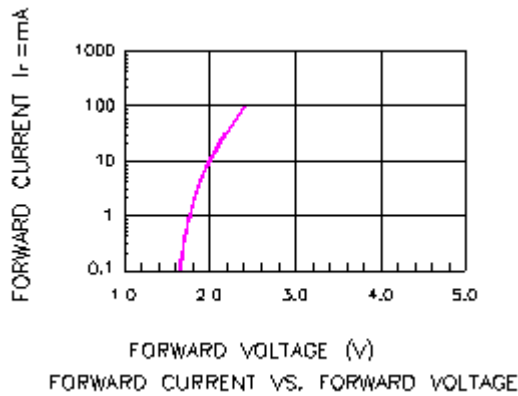
**CC**

**CA**

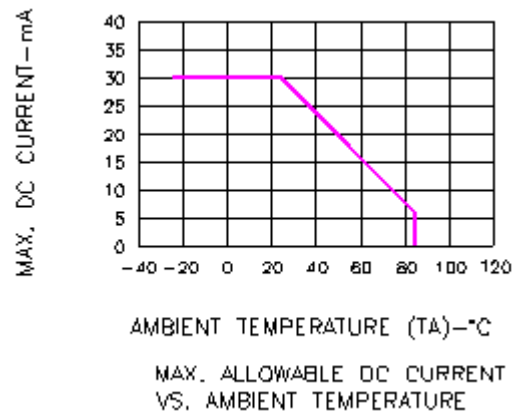
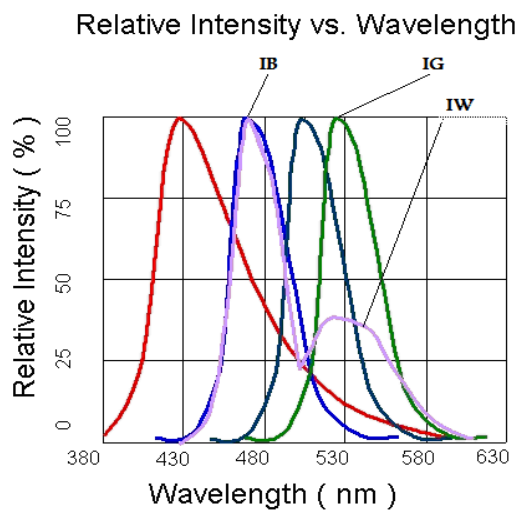
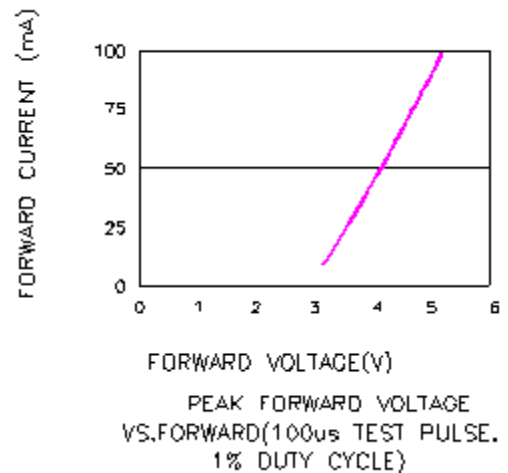
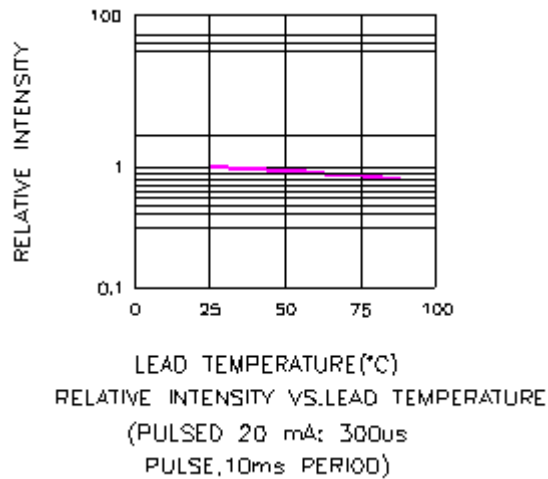
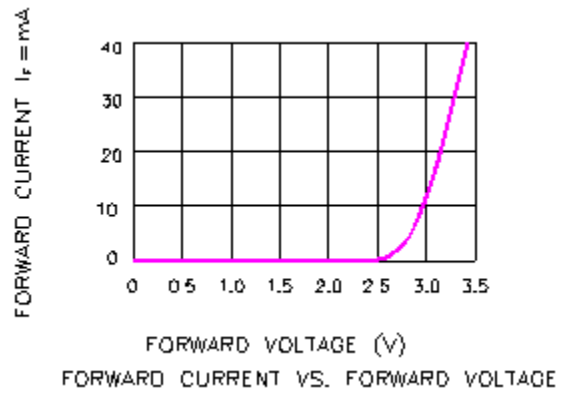
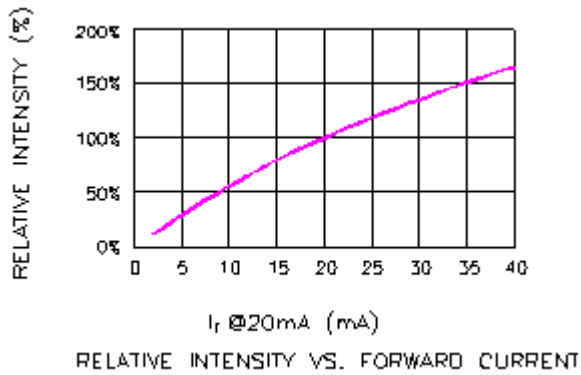


**Characteristic Curves**

AllnGaP

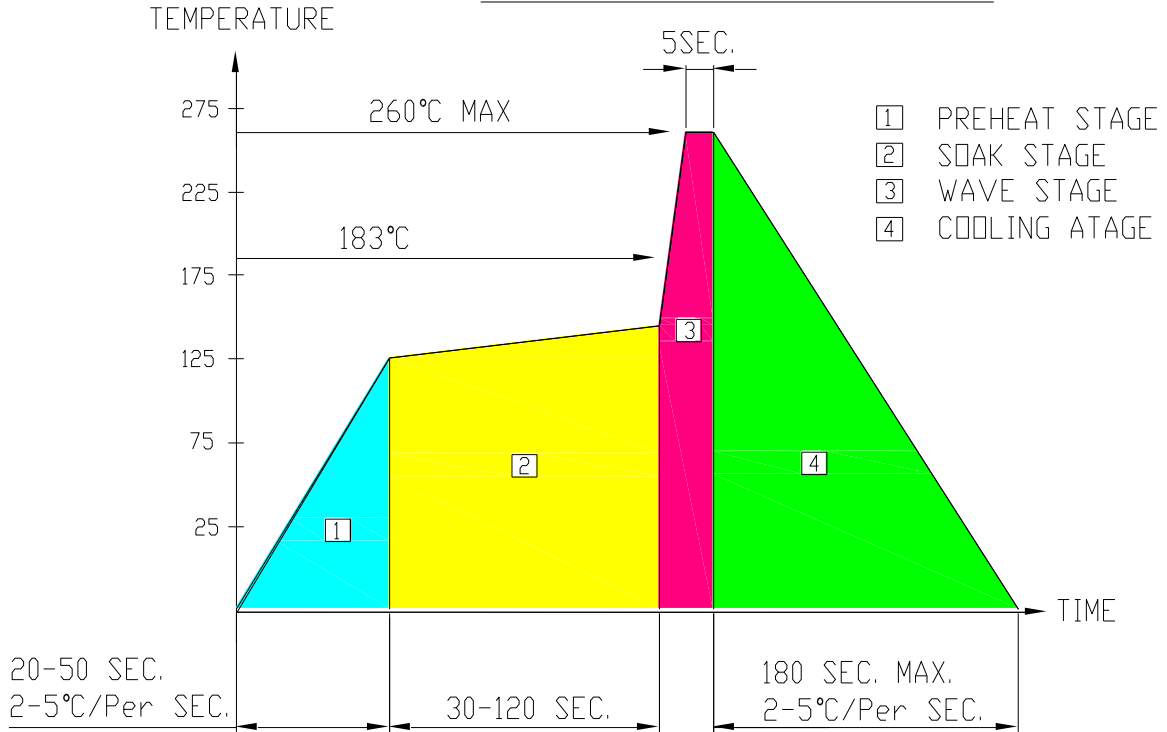


**InGaN**



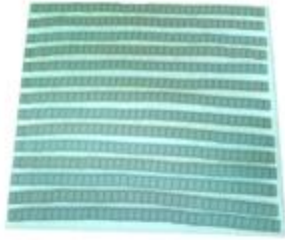
**Solder Profile**

WAVE SOLDER PROFILE

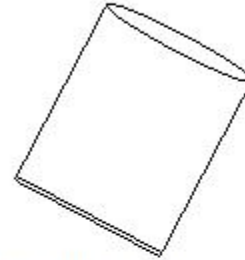


**Packing**

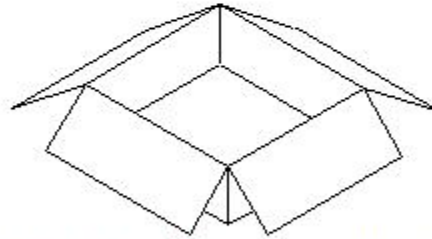
252 PCS / 1 White Polyform ( 18 X 14 PCS )



6 White Polyform / 1BAG  
1512 PCS / 1Inner Carton

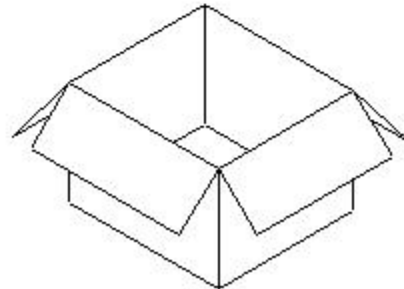


BAG SIZE : 450X410X560



INNER BOX SIZE : 394 x 370 x 138 mm

3024 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		
QBD40R1	QBD40R0	QBD40R1	QBD40R0	Iv=40mcd typ. @ IF=20mA, λD=624nm typ.	252pcs
QBD40S1	QBD40S0	QBD40S1	QBD40S0	Iv=20mcd typ. @ IF=20mA, λD=639nm typ.	252pcs
QBD40Y1	QBD40Y0	QBD40Y1	QBD40Y0	Iv=40mcdtyp. @ IF=20mA, λD=590nm typ.	252pcs
QBD40O1	QBD40O0	QBD40O1	QBD40O0	Iv=40mcd typ. @ IF=20mA, λD=606nm typ.	252pcs
QBD40AG1	QBD40AG0	QBD40AG1	QBD40AG0	Iv=10mcd typ. @ IF=20mA, λD=571nm typ.	252pcs
QBD40IG1	QBD40IG0	QBD40IG1	QBD40IG0	Iv=200mcd typ. @ IF=20mA, λD=525nm typ.	252pcs
QBD40IB1	QBD40IB0	QBD40IB1	QBD40IB0	Iv=40mcd typ. @ IF=20mA, λD=465nm typ.	252pcs

## Revision History

Description:	Revision #	Revision Date
New Release of QBD40XXX_series	V1.0	09/20/2010
Information Updates	V2.0	05/04/2011
Amend Blue Brightness and Part number to QBS39XXZ / update characteristic curve	V2.1	06/24/2011
Amend to the new format/ brightness	V2.2	10/21/2013
Update Spec / Add Packing Info	V2.3	08/21/2015

## 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.