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# **QT-Brightek Display Series**

## **0.40" Three Digit Display**

**Part No.: QBT40XXZ**

**XX= Color**

**Z= 1: Common Cathode**

**Z = 0: Common Anode**

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## Introduction

### Feature:

- 0.4" three 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 0.4" three digit, seven-segment displays are made with white segments and a grey surface. The viewing distance is up to seven meters.

### Application:

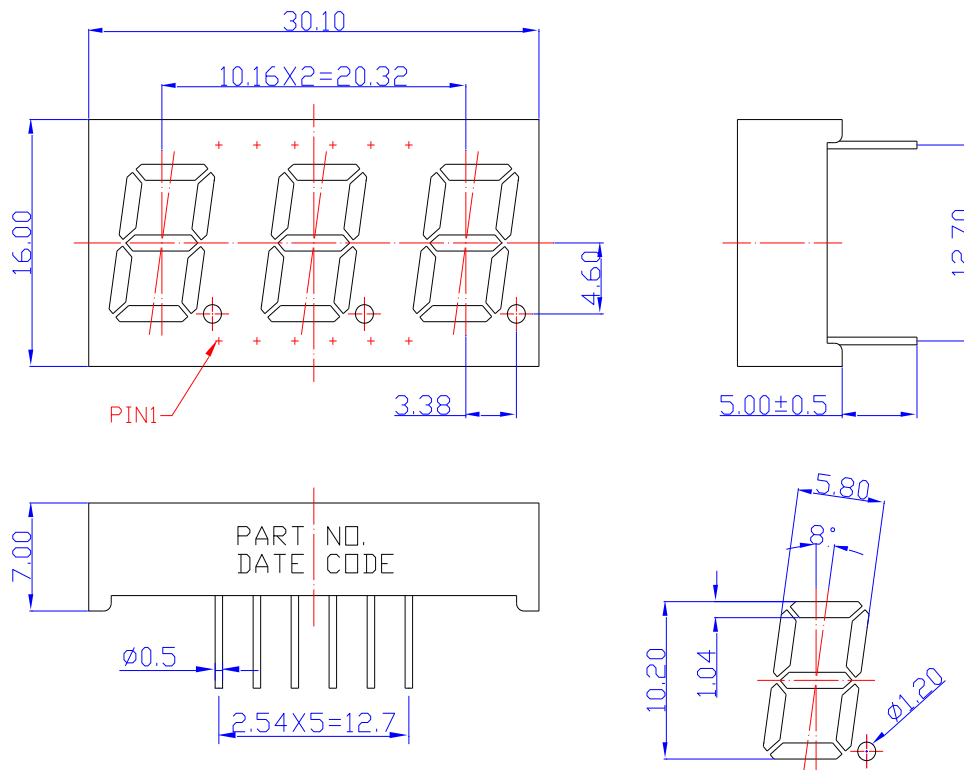
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.25mm

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

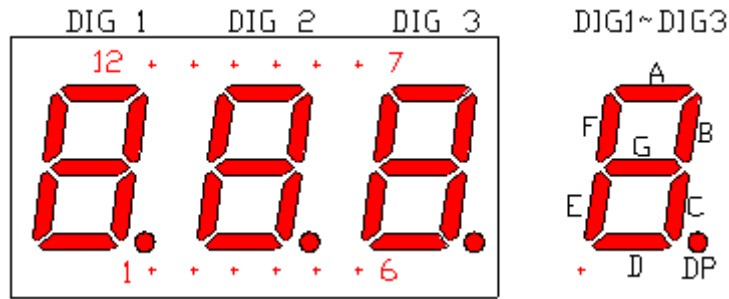
Product		Material	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.
QBT40R1	QBT40R0	AllnGaP	Red	20	2.0	2.6	-	625	-	40
QBT40S1	QBT40S0	AllnGaP	Deep Red	20	2.0	2.6	-	639	-	25
QBT40Y1	QBT40Y0	AllnGaP	Yellow	20	2.0	2.6	-	590	-	60
QBT40O1	QBT40O0	AllnGaP	Orange	20	2.0	2.6	-	606	-	60
QBT40AG1	QBT40AG0	AllnGaP	Yellow Green	20	2.1	2.6	-	571	-	25
QBT40IG1	QBT40IG0	InGaN	True Green	20	3.2	4.0	-	525	-	200
QBT40IB1	QBT40IB0	InGaN	Blue	20	3.0	4.0	-	465	-	40

**Absolute Maximum Rating**

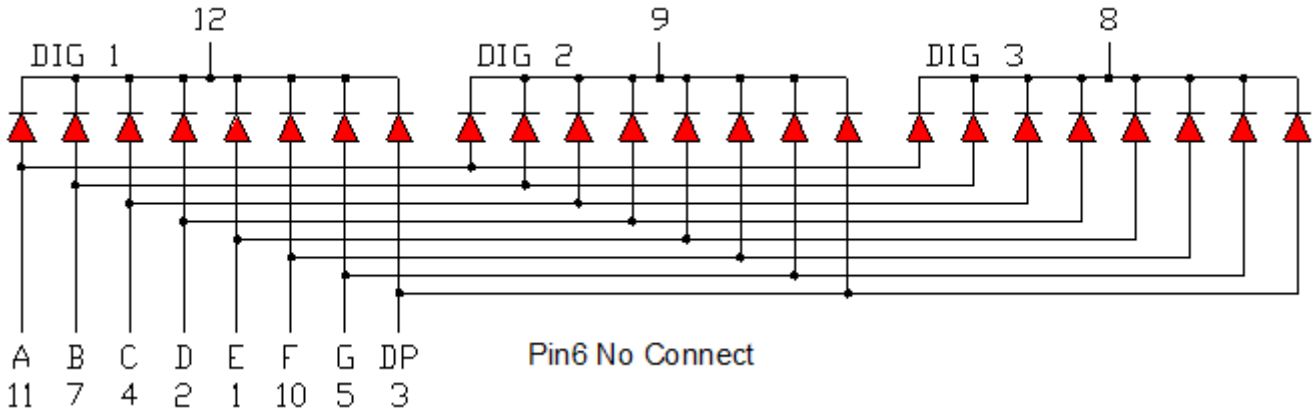
Material	P <sub>d</sub> (mW)	Derating liner from 25 °C per dice (mA/°C)	I <sub>F</sub> (mA)	I <sub>PF</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)
AllnGaP	70	0.33	25	90	5	-25 to +85	-25 to +85
InGaN	120	0.4	30	100	5	-25 to +85	-25 to +85

\*Duty 1/10 @ 1KHz

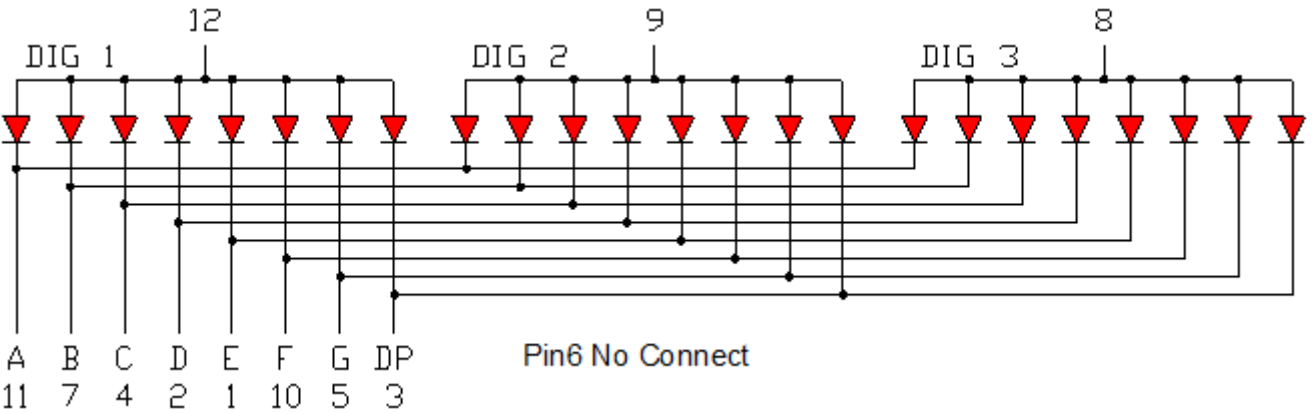
**Pin Configuration**



**CC**

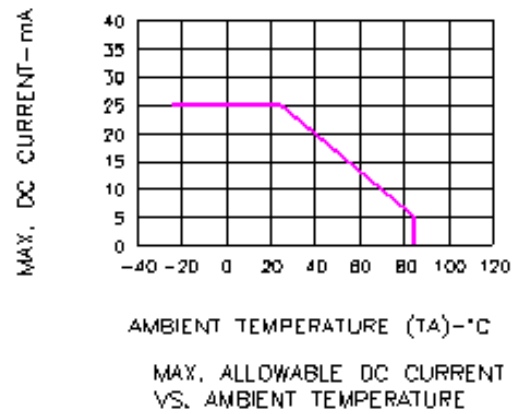
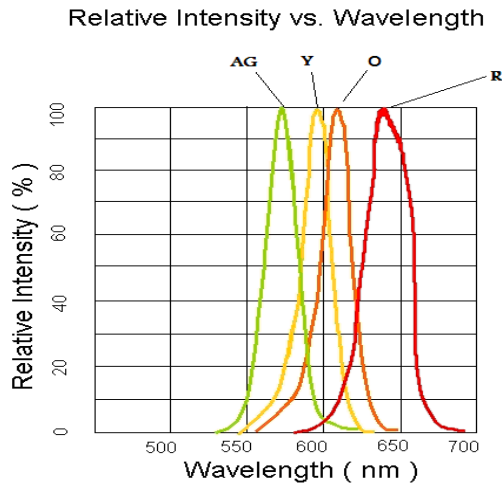
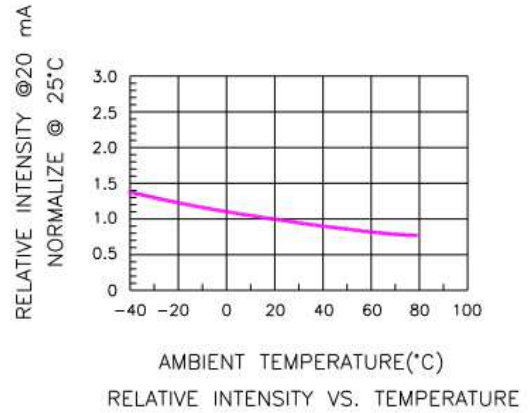
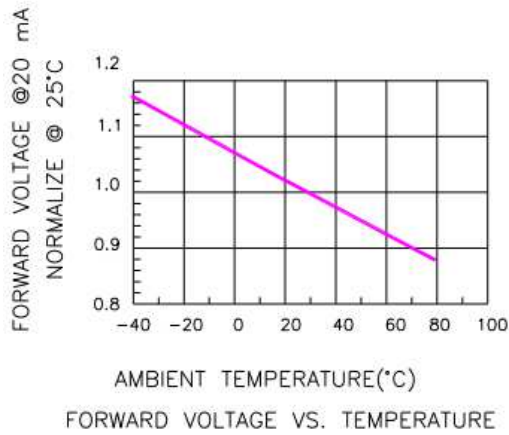
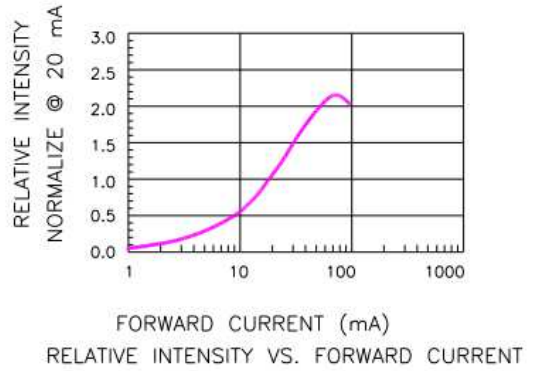
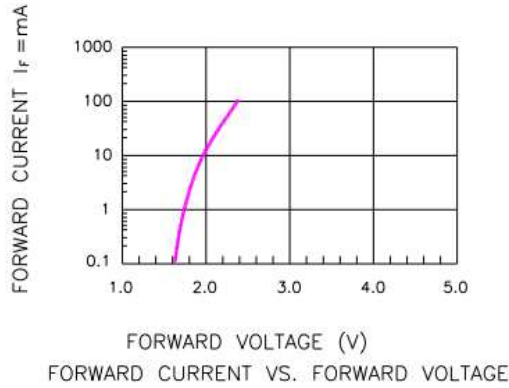


**CA**

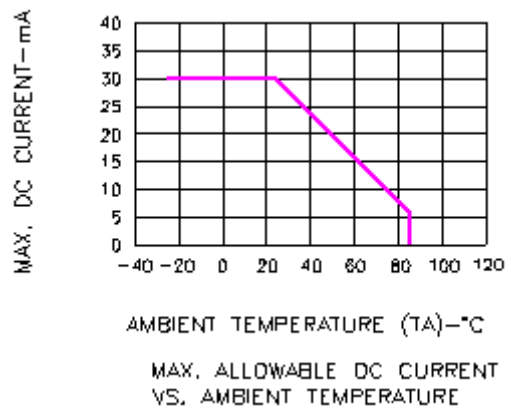
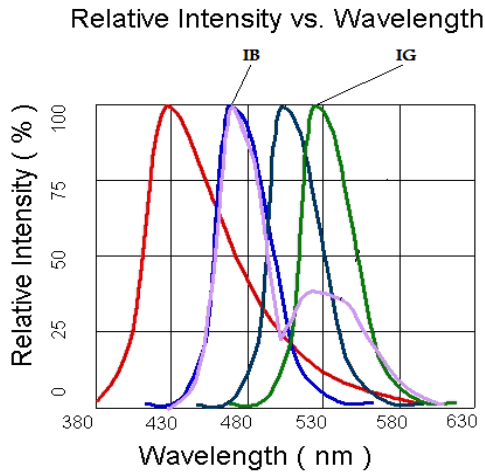
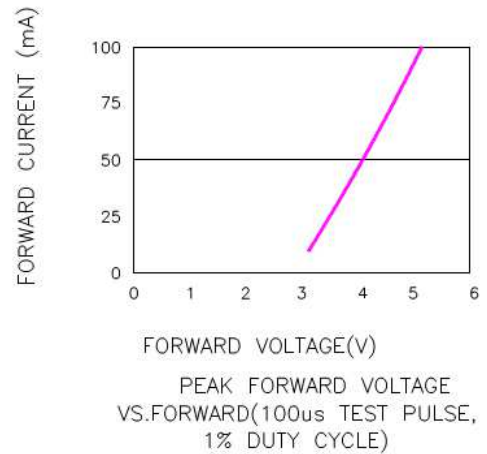
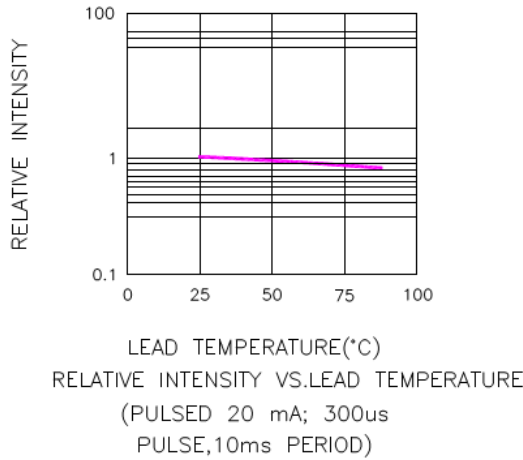
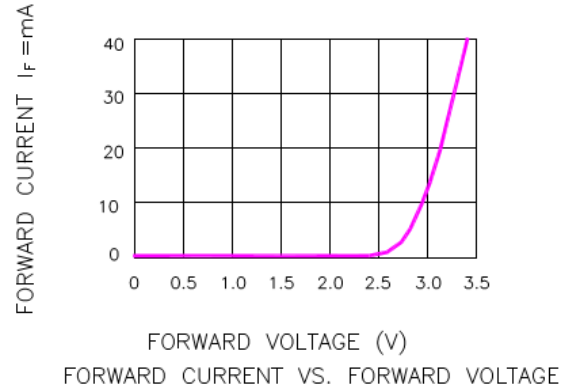
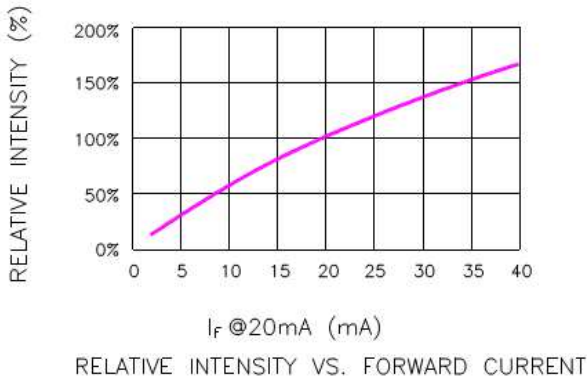


## Characteristic Curves

AllnGaP



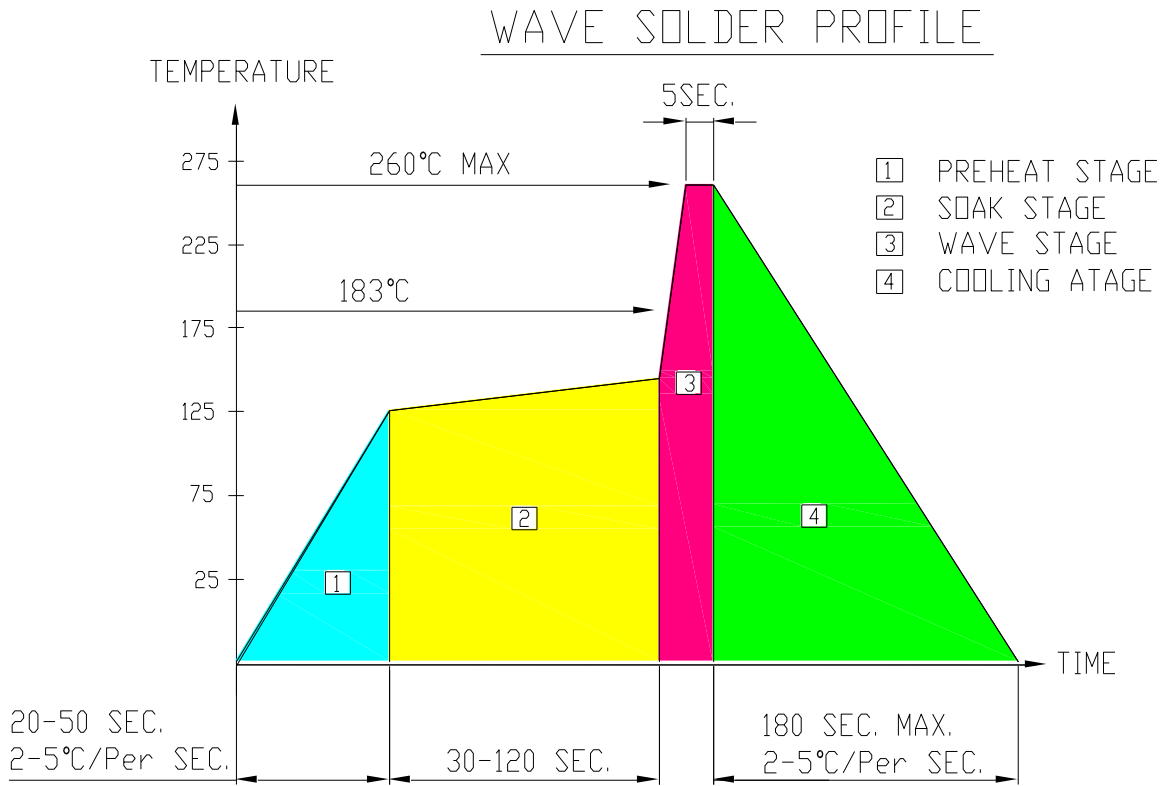
**InGaN**





# Solder Profile

## Recommended Solder Profile



**Packing**

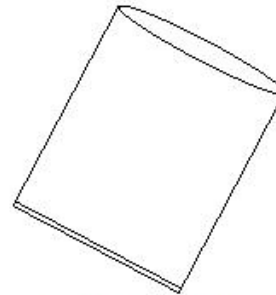
168 PCS / 1 White Polyform ( 14 X 12 PCS )



5 White Polyform / 1 BAG  
840 PCS / 1 Inner Carton

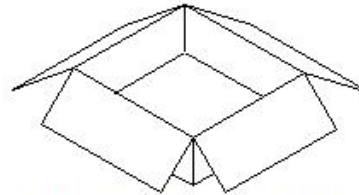


A reference for packing within bag.

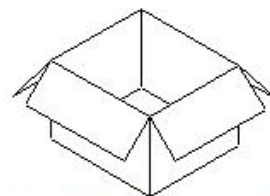


BAG SIZE : 450X410X560

840 PCS / 1 INNER CARTON & 1680 PCS / 2 INNER CARTON / 1 OUTER CARTON



INNER BOX SIZE : 394 x 370 x 138 mm



OUTER BOX SIZE : 430 x 390 x 300 mm

### Ordering Information

Product		Orderable Part #		Spec Range	Quantity per foam
CC	CA	CC	CA		
QBT40R1	QBT40R0	QBT40R1	QBT40R0	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =625nm typ.	168pcs
QBT40S1	QBT40S0	QBT40S1	QBT40S0	I <sub>v</sub> =25mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =639nm typ.	168pcs
QBT40Y1	QBT40Y0	QBT40Y1	QBT40Y0	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =590nm typ.	168pcs
QBT40O1	QBT40O0	QBT40O1	QBT40O0	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =606nm typ.	168pcs
QBT40AG1	QBT40AG0	QBT40AG1	QBT40AG0	I <sub>v</sub> =25mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =571nm typ.	168pcs
QBT40IG1	QBT40IG0	QBT40IG1	QBT40IG0	I <sub>v</sub> =200mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =525nm typ.	168pcs
QBT40IB1	QBT40IB0	QBT40IB1	QBT40IB0	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =465nm typ.	168pcs

## Revision History

Description:	Revision #	Revision Date
New Release of QBT40XXZ_series	V1.0	06/24/2011
Update binning, solder profile and packing specs	V1.1	03/14/2012
Update format / Add more color options	V1.2	09/14/2015

## 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.

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