

# **QT-Brightek Display Series**

## **0.56" Three Digit Display**

**Part No.: QBT56XXZ**

**XX= Color**

**Z= 1: Common Cathode**

**Z = 0: Common Anode**

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## Introduction

### Feature:

- 0.56" 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 0.56" three-digit, seven-segment displays are made with white segments and a grey surface. The viewing distance is up to seven meters.

### Application:

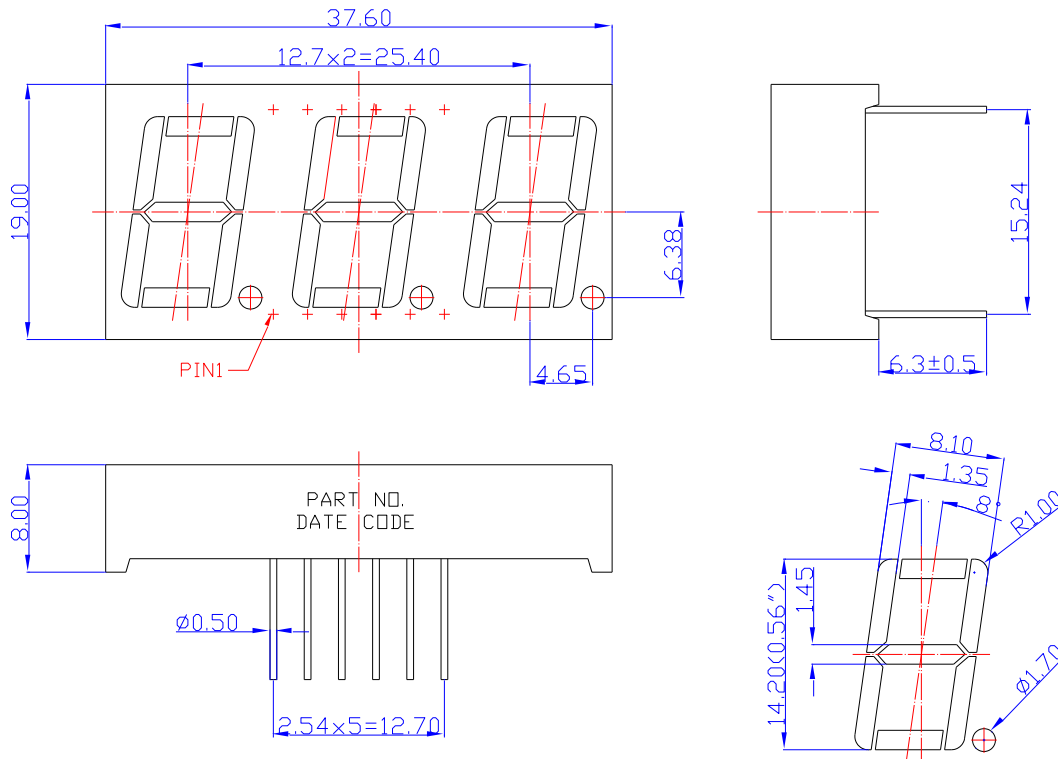
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

### Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.25mm

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

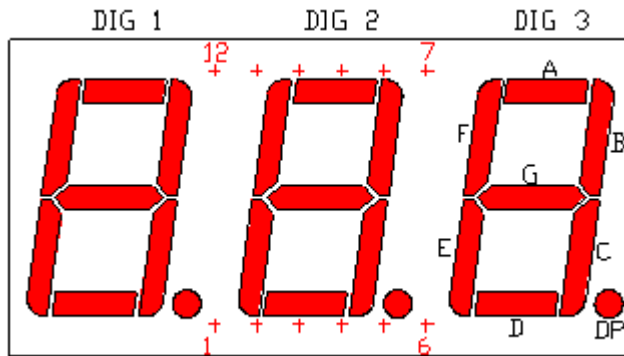
Product		Material	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)		λ <sub>D</sub> (nm)			I <sub>V</sub> (mcd)
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.
QBT56R1	QBT56R0	AllnGaP	Red	20	2.0	2.6	-	624	-	60
QBT56S1	QBT56S0	AllnGaP	Deep Red	20	2.0	2.6	-	639	-	35
QBT56Y1	QBT56Y0	AllnGaP	Yellow	20	2.0	2.6	-	590	-	60
QBT56O1	QBT56O0	AllnGaP	Orange	20	2.0	2.6	-	606	-	60
QBT56AG1	QBT56AG0	AllnGaP	Yellow Green	20	2.1	2.6	-	571	-	25
QBT56IG1	QBT56IG0	InGaN	True Green	20	3.2	3.6	-	525	-	200
QBT56IB1	QBT56IB0	InGaN	Blue	20	3.0	4.0	-	465	-	60

**Absolute Maximum Rating**

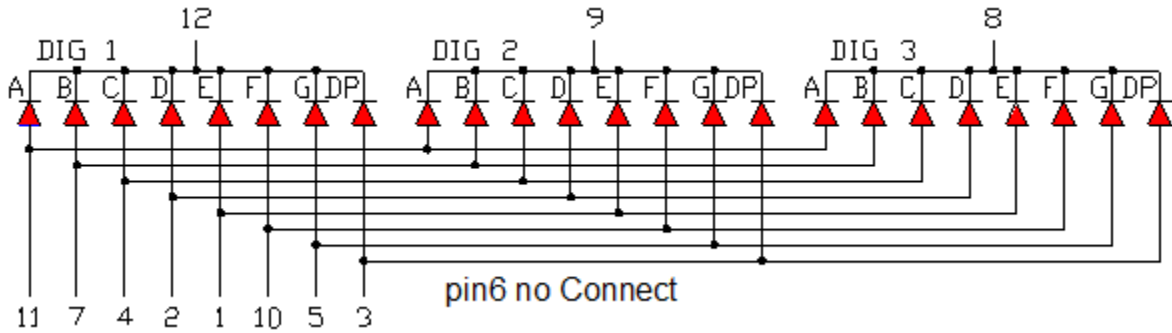
Material	P <sub>d</sub> (mW)	Derating liner from 25 °C per dice (mA/°C)	I <sub>F</sub> (mA)	I <sub>PF</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)
AllnGaP	70	0.33	25	90	5	-25 to +85	-25 to +85
InGaN	120	0.4	30	100	5	-25 to +85	-25 to +85

\*Duty 1/10 @ 1KHz

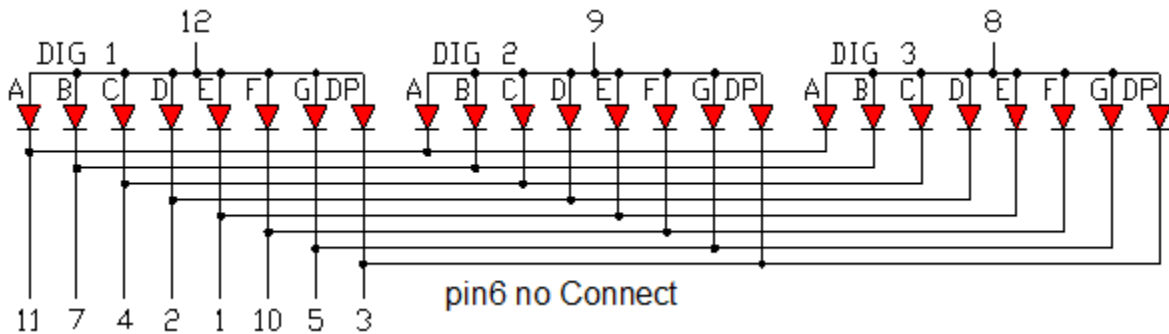
**Pin Configuration**



**CC**

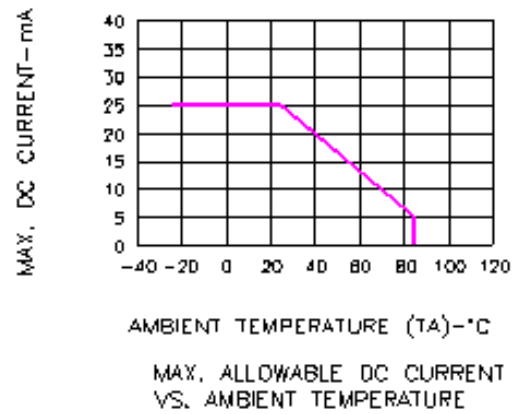
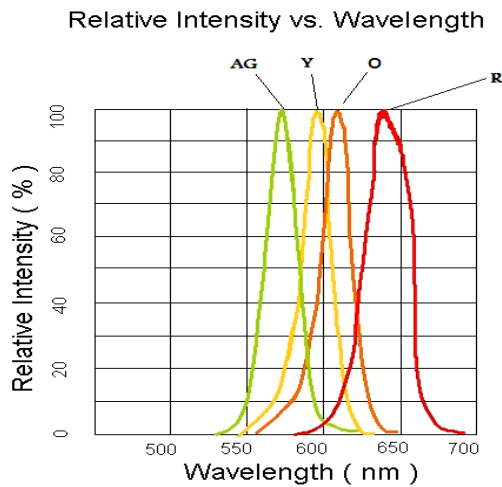
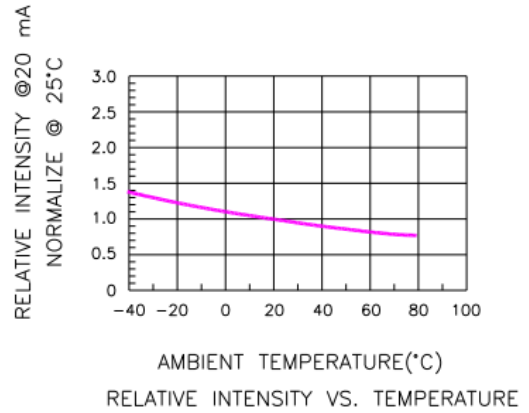
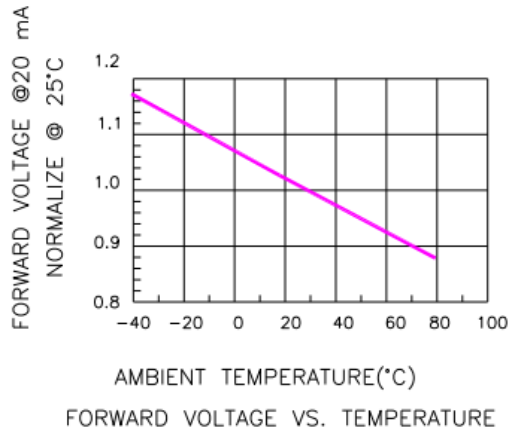
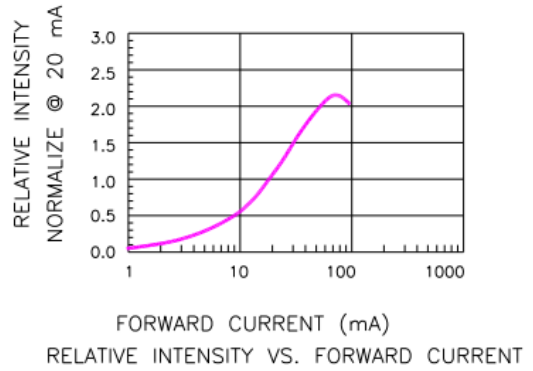
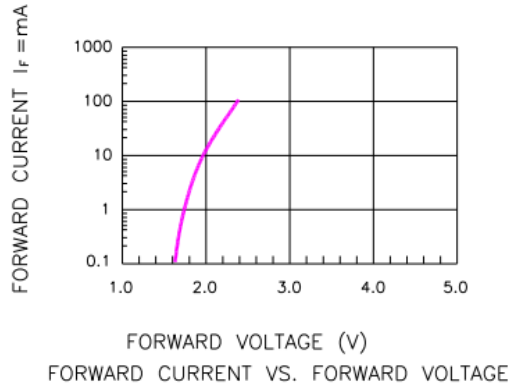


**CA**

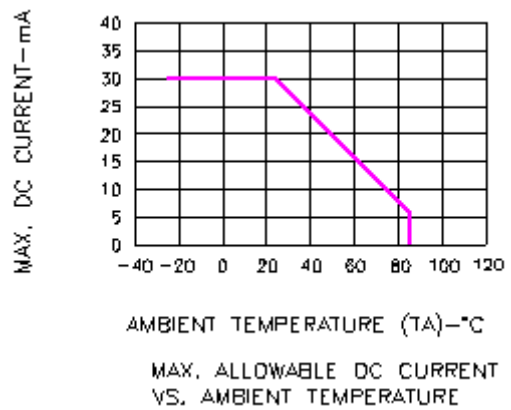
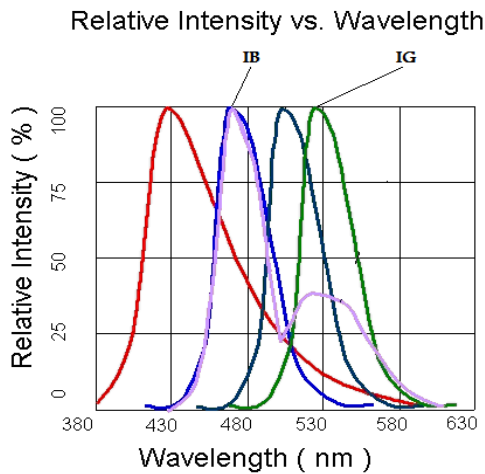
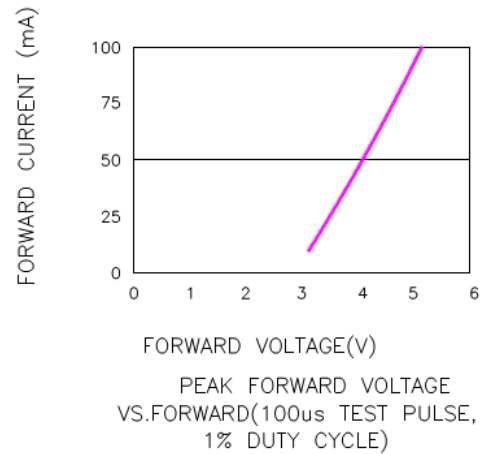
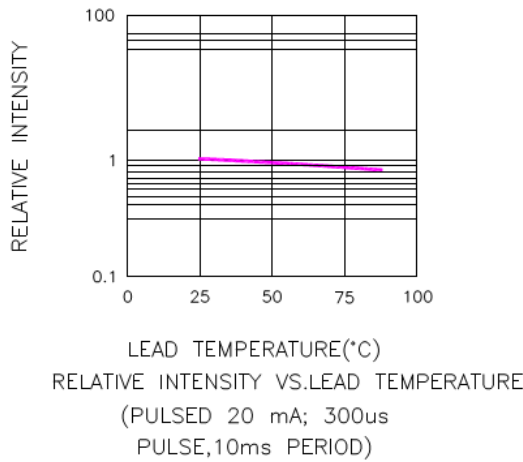
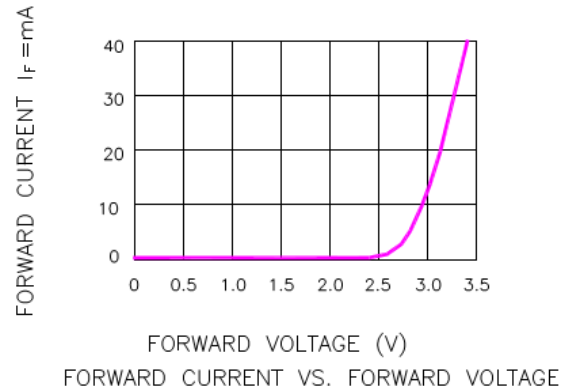
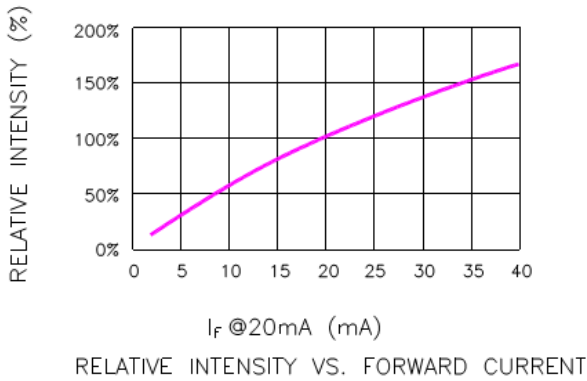


**Characteristic Curves**

AllnGaP

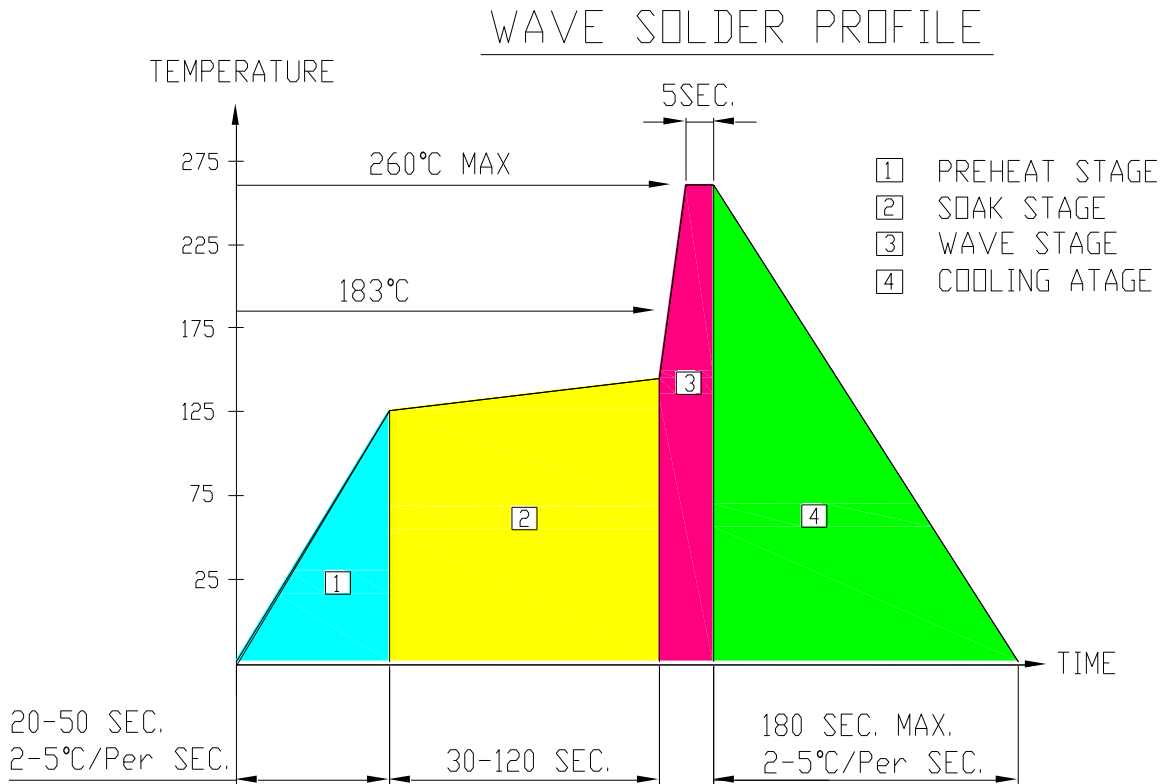


InGaN



# Solder Profile

## Recommended Solder Profile





**Packing**

117 PCS/ 1 Pink ESD Polyform ( 9 X 13 PCS )

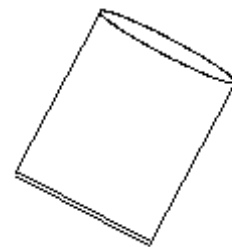


5 Pink ESD Polyform / 1 Pink BAG

585PCS /1Inner Carton

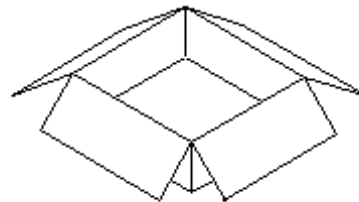


A reference for packing within bag.

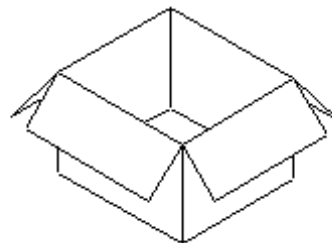


ESD BAG SIZE : 650 x 550 mm

585 PCS / 1 INNER CARTON & 1170 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		
QBT56R1	QBT56R0	QBT56R1	QBT56R0	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =624nm typ.	117pcs
QBT56S1	QBT56S0	QBT56S1	QBT56S0	I <sub>v</sub> =35mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =639nm typ.	117pcs
QBT56Y1	QBT56Y0	QBT56Y1	QBT56Y0	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =590nm typ.	117pcs
QBT56O1	QBT56O0	QBT56O1	QBT56O0	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =606nm typ.	117pcs
QBT56AG1	QBT56AG0	QBT56AG1	QBT56AG0	I <sub>v</sub> =25mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =571nm typ.	117pcs
QBT56IG1	QBT56IG0	QBT56IG1	QBT56IG0	I <sub>v</sub> =200mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =525nm typ.	117pcs
QBT56IB1	QBT56IB0	QBT56IB1	QBT56IB0	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> =465nm typ.	117pcs

## Revision History

Description:	Revision #	Revision Date
New Release of QBT56XXX_series	V1.0	09/20/2010
Amend part number to QBT56XXZ / add color spec: blue and true green	V2.0	06/24/2011
Add the orange color spec	V2.1	02/13/2012
Added binning and packing information	V2.2	03/01/2012
Update format and spec	V3.0	09/23/2015

## Disclaimer

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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.

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