

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 S/R3/R/Y/AG/O
- InGaN Technology IG/IB
- Z=0: Common anode
- Z=1: Common cathode
- XX= Color code

Application:

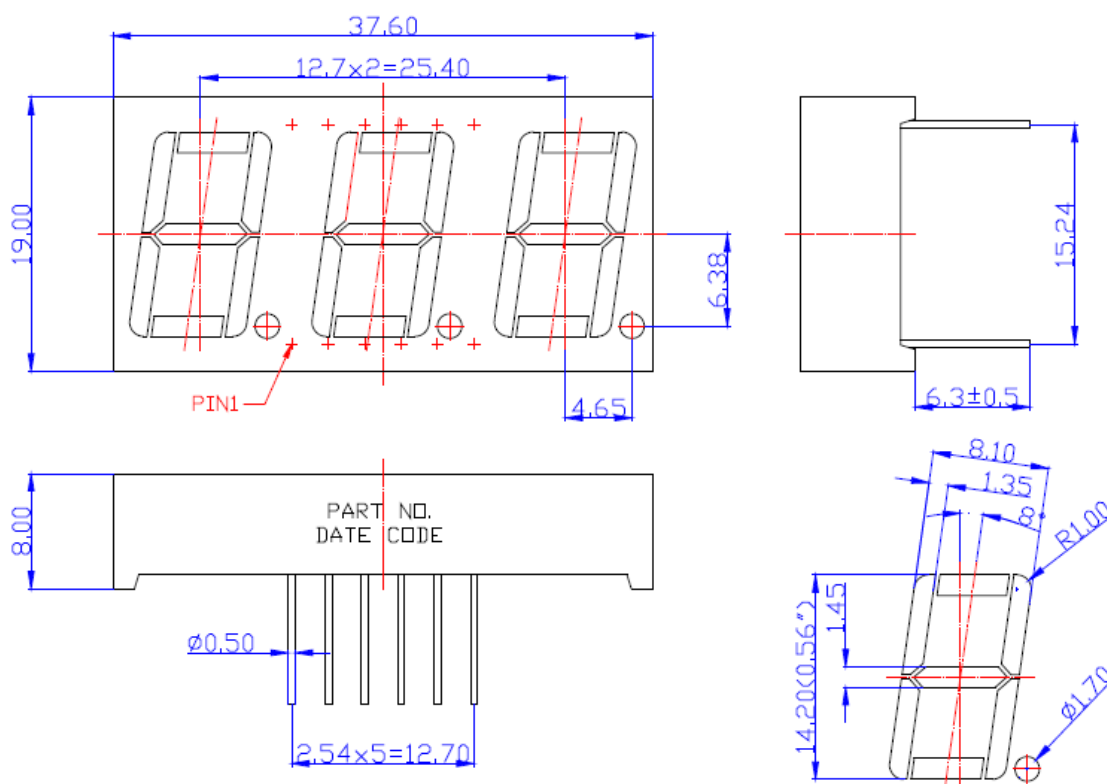
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

Certification & Compliance:

- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.25mm

Electrical / Optical Characteristic (Ta=25 °C)

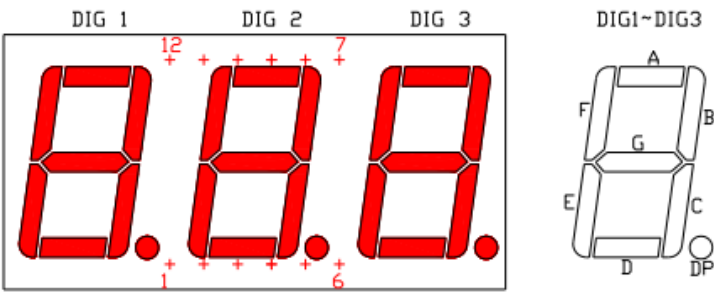
Product		Color	I _F (mA)	V _F (V)		λ _D (nm)			λ _p (nm)	I _V (mcd)
CA	CC			Typ.	Max.	Min.	Typ.	Max.	Typ.	Typ.
QBT56S0	QBT56S1	Deep Red	20	2.1	2.4	635	643	648	655	25
QBT56R30	QBT56R31	Red	20	2.1	2.4	625	631	637	645	50
QBT56R0	QBT56R1	Red	20	2.1	2.4	619	624	629	632	60
QBT56Y0	QBT56Y1	Yellow	20	2.1	2.4	585	590	595	593	60
QBT56O0	QBT56O1	Orange	20	2.0	2.4	600	606	610	612	60
QBT56AG0	QBT56AG1	Yellow Green	20	2.1	2.4	567	571	576	573	20
QBT56IG0	QBT56IG1	True Green	20	2.8	3.2	515	525	530	-	250
QBT56IB0	QBT56IB1	Blue	20	3.0	3.4	460	465	475	-	60

Absolute Maximum Rating

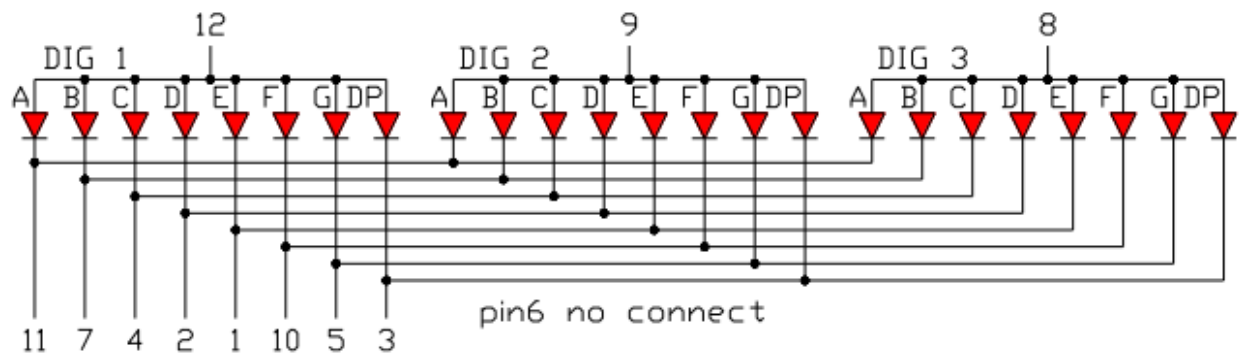
Chip Material	P _d (mW)	I _F (mA)	I _{PF} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)
AlInGaP (S, R3, R, Y, O, AG)	48	20	40	5	-40 to +85	-40 to +85
InGaN (IG, IB)	68	20	60	5	-40 to +85	-40 to +85

*Duty 1/10 @ 1KHz

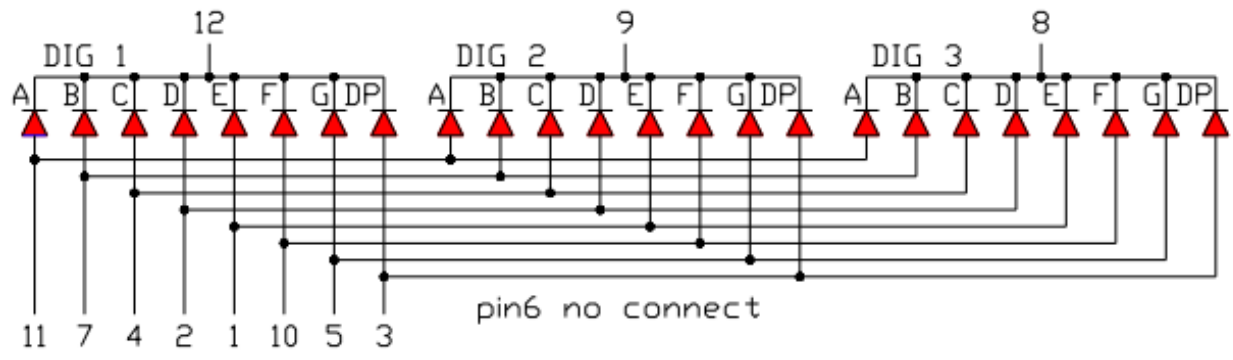
Pin Configuration



CA (QBT56XX0)

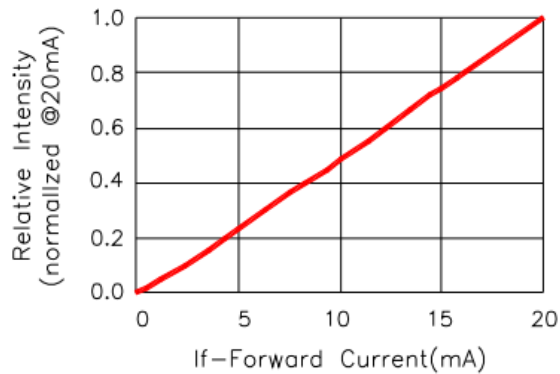


CC (QBT56XX1)

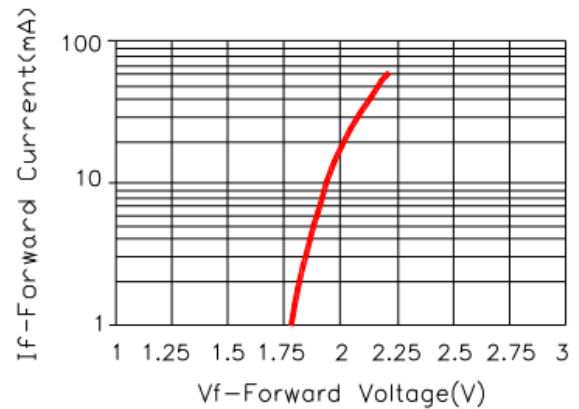


Characteristic Curves

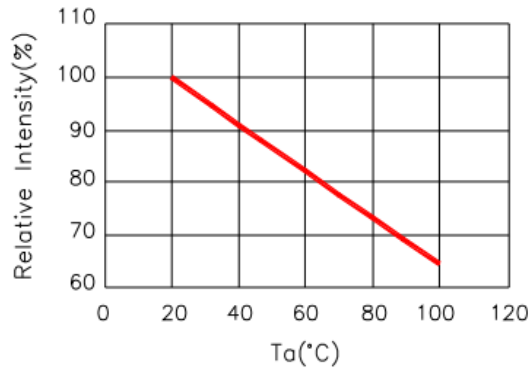
AlInGaP (S, R3, R, O, Y, AG)



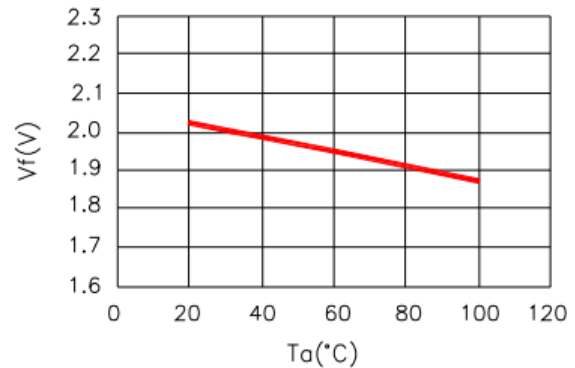
Relative Luminous Intensity vs. Forward Current



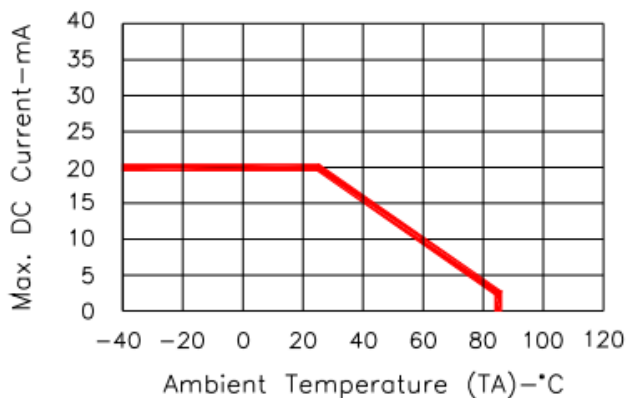
Forward Current vs. Forward Voltage



Relative Intensity(@20mA) vs. Ambient Temperature

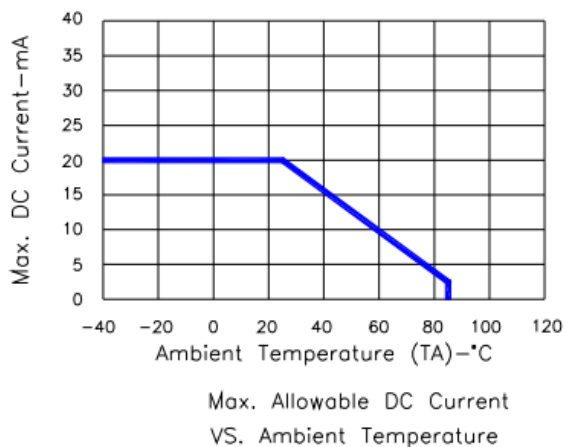
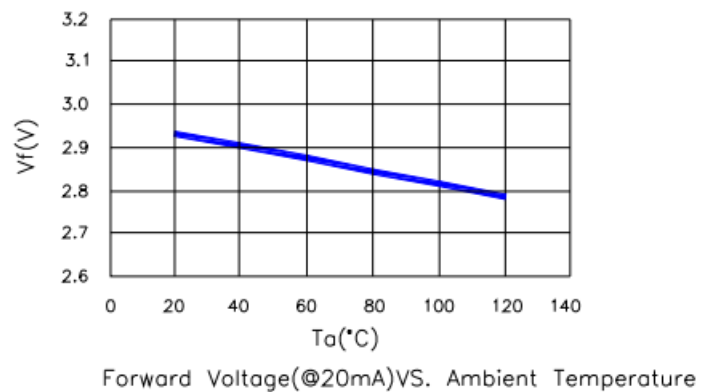
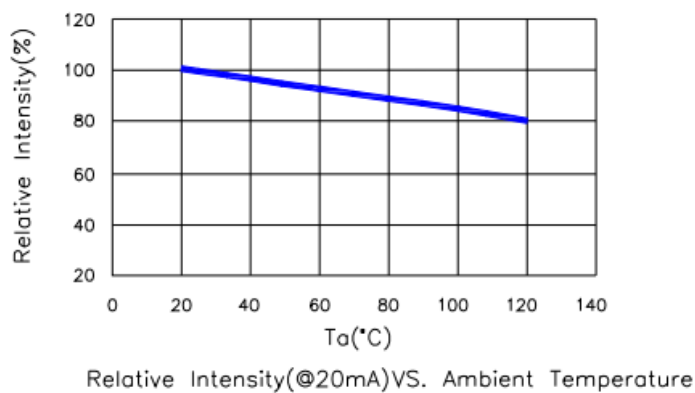
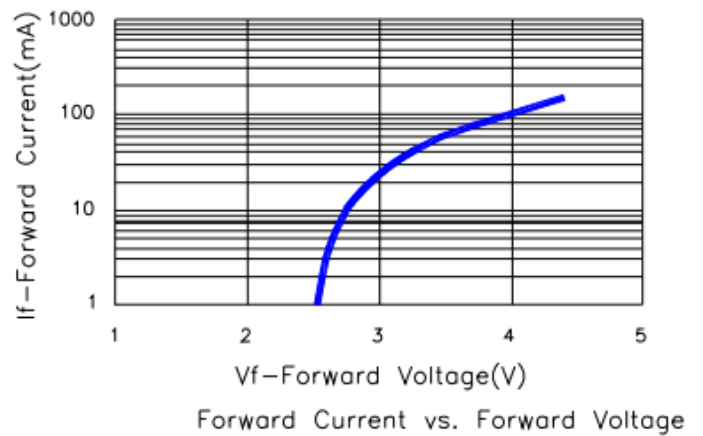
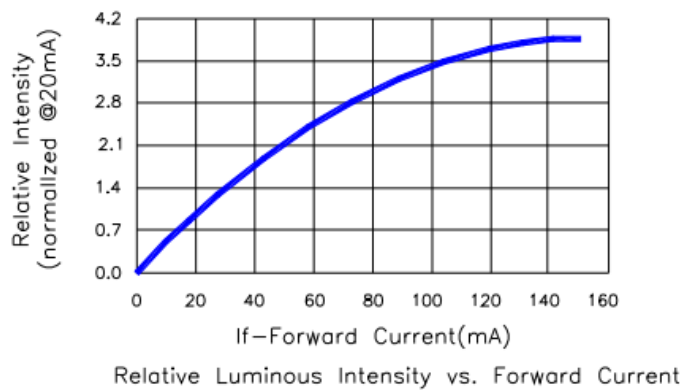


Forward Voltage(@20mA) vs. Ambient Temperature



Max. Allowable DC Current
VS. Ambient Temperature

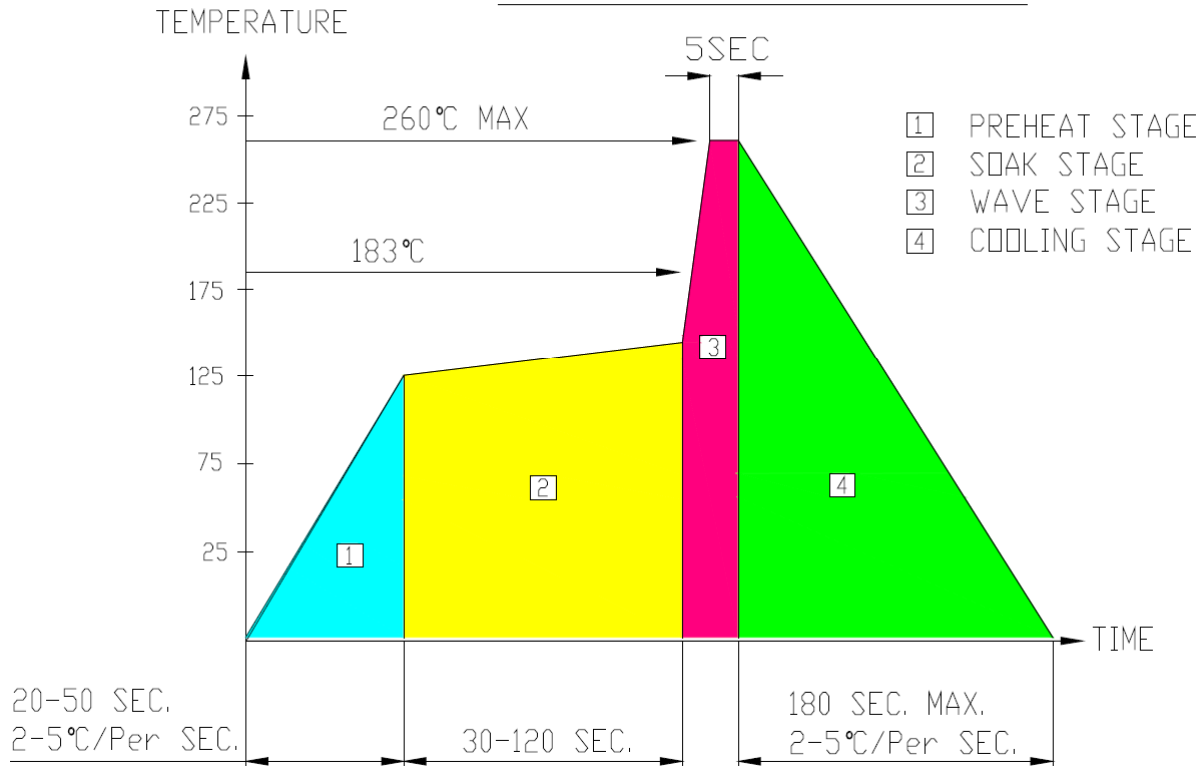
InGaN (IG, IB)



Solder Profile

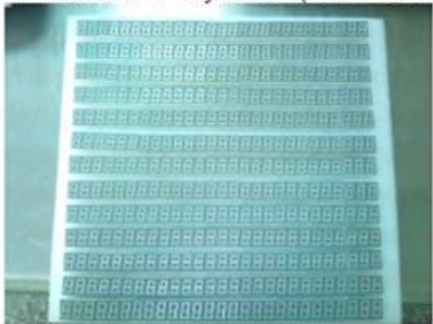
Recommended Solder Profile

WAVE SOLDER PROFILE

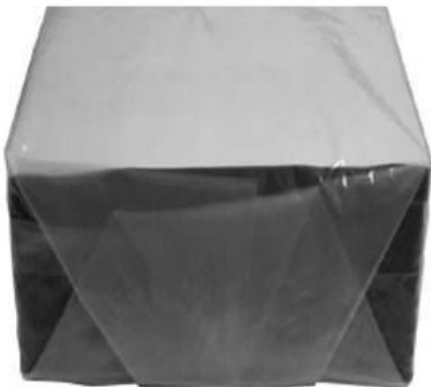


Packing

117 PCS / 1 White Polyform (9 X 13 PCS)

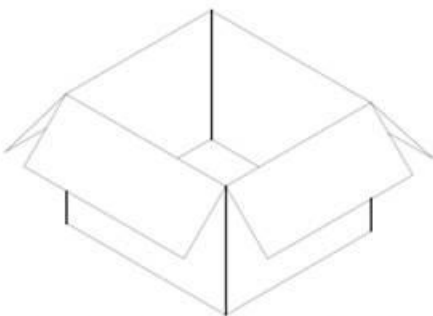


12 White Polyform / 1 BAG



BAG SIZE : 450X410X760

1404 PCS/ 1 BAG / 1 outer carton



OUTER BOX SIZE : 430 x 390 x 300 mm

Ordering Information

Orderable Part #		Spec Range	Quantity per foam
CA	CC		
QBT56S0	QBT56S1	Iv=25mcd typ. @ I _F =20mA, λ _D =643nm typ.	117pcs
QBT56R30	QBT56R31	Iv=50mcd typ. @ I _F =20mA, λ _D =631nm typ.	
QBT56R0	QBT56R1	Iv=60mcd typ. @ I _F =20mA, λ _D =624nm typ.	
QBT56Y0	QBT56Y1	Iv=60mcd typ. @ I _F =20mA, λ _D =590nm typ.	
QBT56O0	QBT56O1	Iv=60mcd typ. @ I _F =20mA, λ _D =606nm typ.	
QBT56AG0	QBT56AG1	Iv=20mcd typ. @ I _F =20mA, λ _D =571nm typ.	
QBT56IG0	QBT56IG1	Iv=250mcd typ. @ I _F =20mA, λ _D =525nm typ.	
QBT56IB0	QBT56IB1	Iv=60mcd typ. @ I _F =20mA, λ _D =465nm typ.	

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
Update spec	V3.1	12/28/2021

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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.