QT-Brightek Display Series

0.56” Single Digit Display

Part No.: QBS56XXZ

XX= Color
Z= 1: Common Cathode
Z = 0: Common Anode

Table of Contents:

Introduction

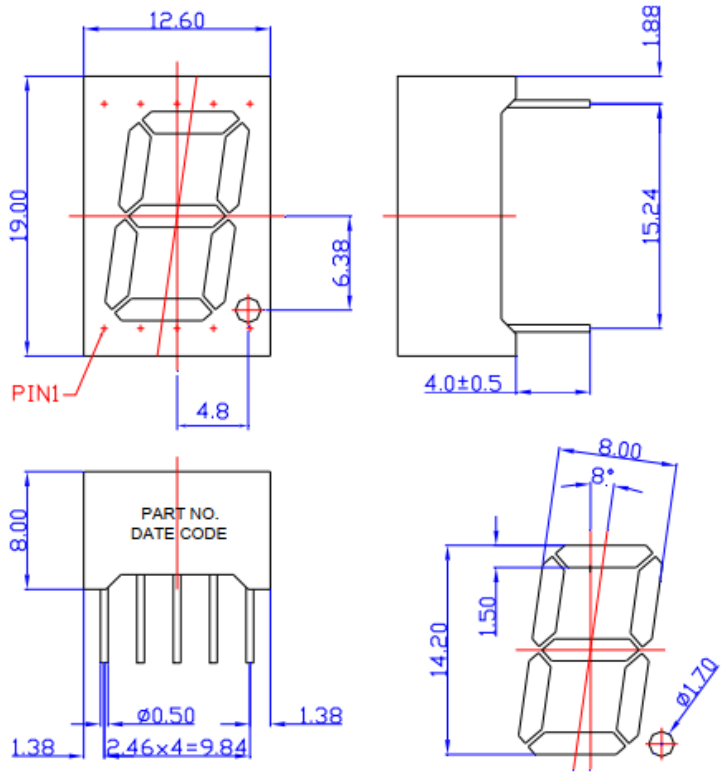
Feature:
- 0.56” Single digit seven segments display
- Low power consumption
- Packed in foam
- AlInGaP Technology R/S/Y/AG/O
- InGaN Technology IB/IG
- Z= 1: Common Cathode or 0:Common Anode
- XX= color

Description:
These 0.56” 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:
- ISO9001
- RoHS Compliant

Dimension:



Units: mm / tolerance = +/-0.25mm

Electrical / Optical Characteristic (Ta=25 ^{o}C)

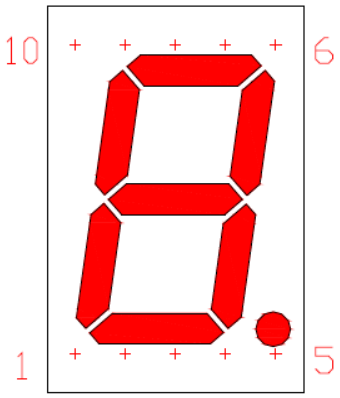
Product		Material	Color	I_F (mA)	V_F (V)		λ_D (nm)			λ_P (nm)	I_V (mcd)
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.	Typ.
QBS56R1	QBS56R0	AlInGaP	Red	20	2.1	2.4	619	624	629	632	60
QBS56S1	QBS56S0	AlInGaP	Deep Red	20	2.1	2.4	636	639	648	650	20
QBS56Y1	QBS56Y0	AlInGaP	Yellow	20	2.1	2.4	585	590	595	593	60
QBS56O1	QBS56O0	AlInGaP	Orange	20	2.0	2.4	601	606	611	612	60
QBS56AG1	QBS56AG0	AlInGaP	Green	20	2.1	2.4	567	571	576	573	20
QBS56IG1	QBS56IG0	InGaN	True Green	20	2.8	3.2	515	525	530	-	250
QBS56IB1	QBS56IB0	InGaN	Blue	20	3.0	3.4	460	465	475	-	60

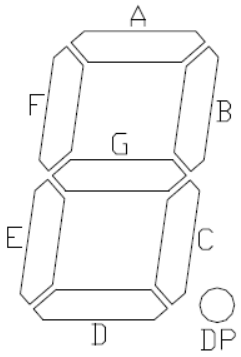
Absolute Maximum Rating

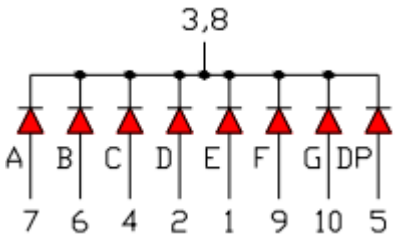
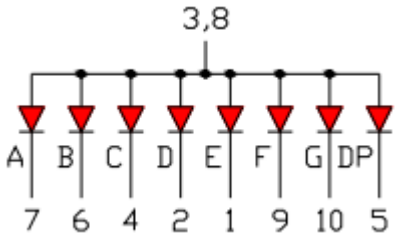
Material	P_d (mW)	I_F (mA)	I_{PF} (mA)*	V_R (V)	T_{OP} (^{o}C)	T_{ST} (^{o}C)
AlInGaP	48	20	40	5	-40 to +85	-40 to +85
InGaN	68	20	60	5	-40 to +85	-40 to +85

*Duty 1/10 @ 1KHz

Pin Configuration

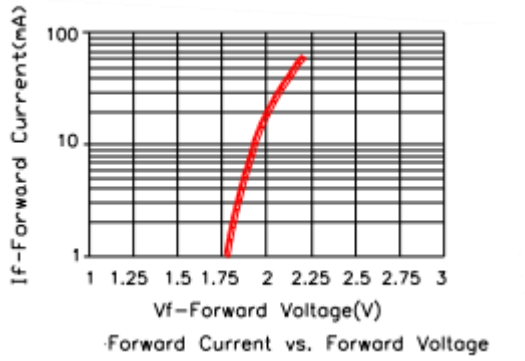




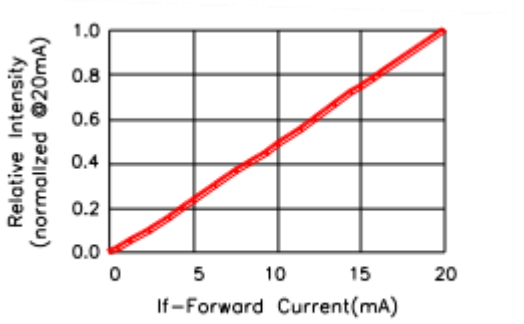
Common Cathode (QBS56XX1)	Common Anode (QBS56XX0)
	

Characteristic Curves

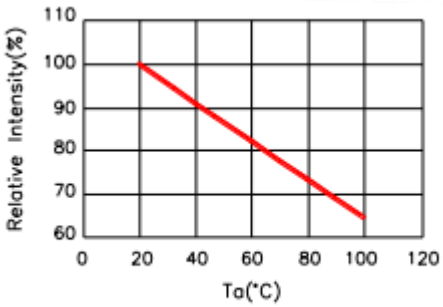
AlInGaP (R/S/Y/O/AG)



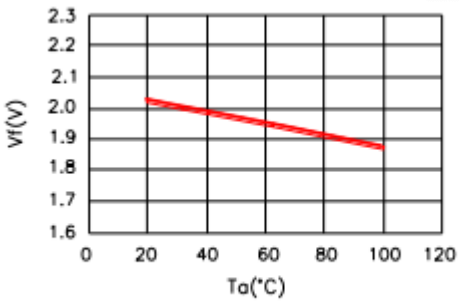
·Forward Current vs. Forward Voltage



·Relative Luminous Intensity vs. Forward Current

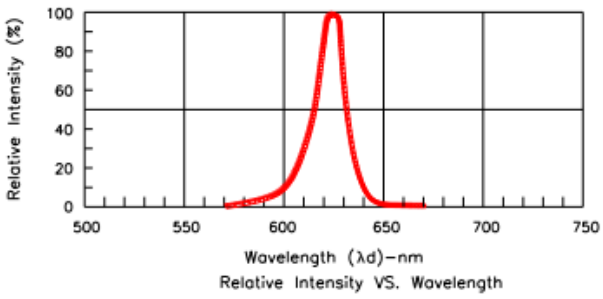


·Relative Intensity(@20mA) vs. Ambient Temperature



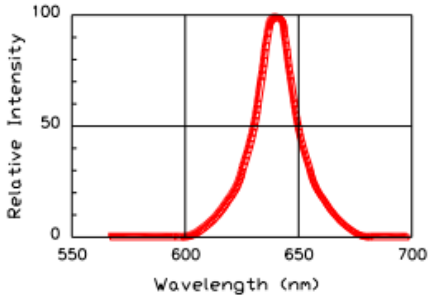
·Forward Voltage(@20mA) vs. Ambient Temperature

R (Red)



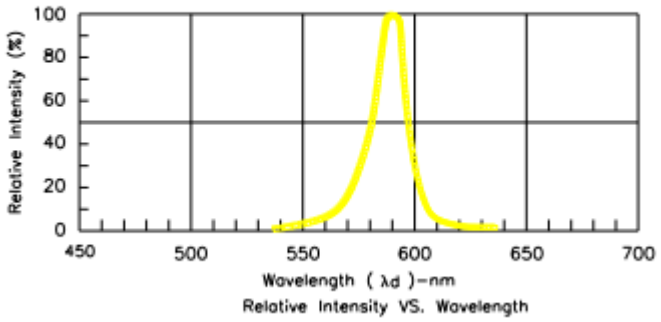
Relative Intensity VS. Wavelength

S (Deep Red)

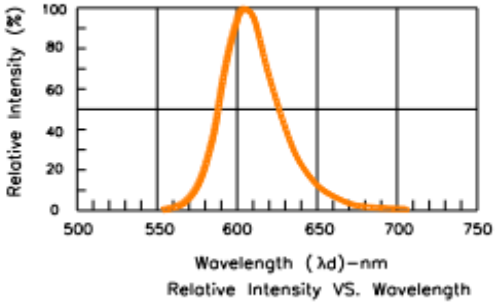


RELATIVE INTENSITY VS. WAVELENGTH

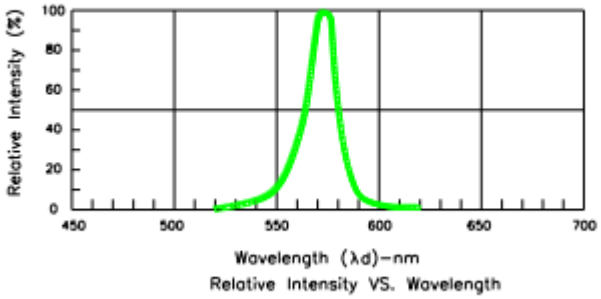
Y (Yellow)

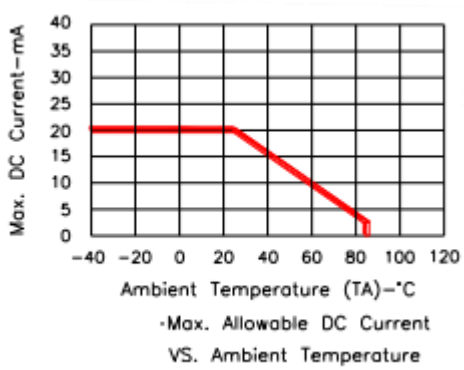


O (Orange)

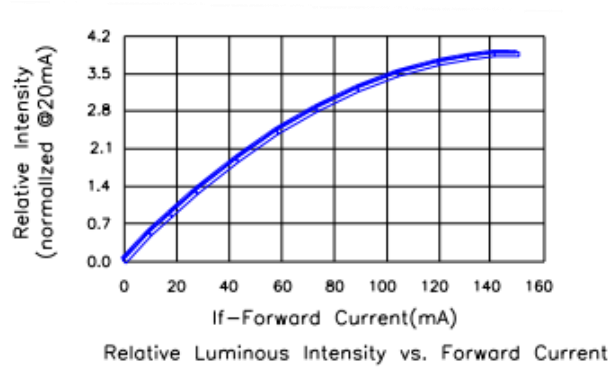


AG (Green)

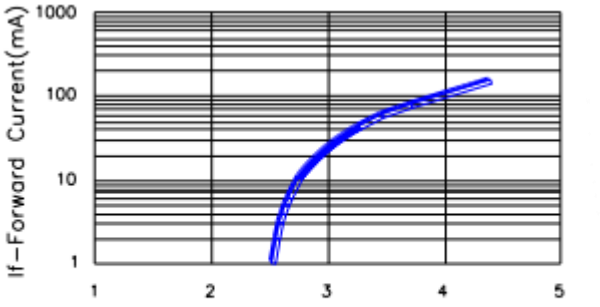




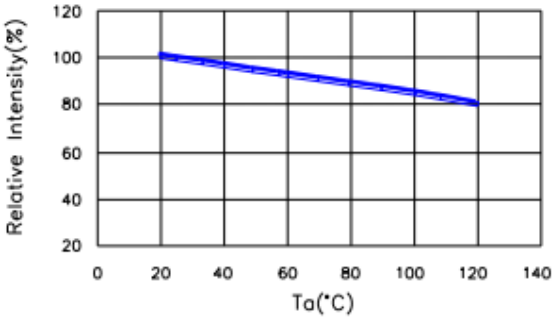
InGaN (IG/IB)



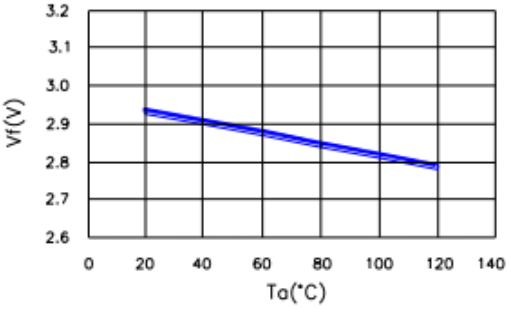
Relative Luminous Intensity vs. Forward Current



·Forward Current vs. Forward Voltage

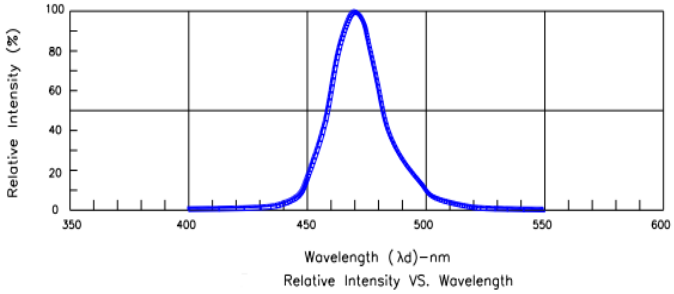


·Relative Intensity(@20mA)VS. Ambient Temperature



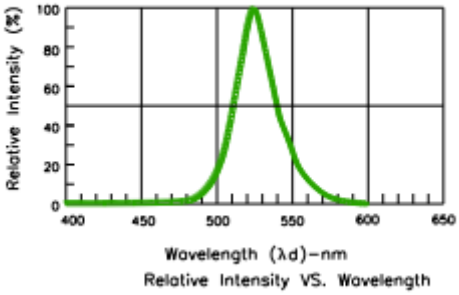
Forward Voltage(@20mA)VS. Ambient Temperature

IB (Blue)

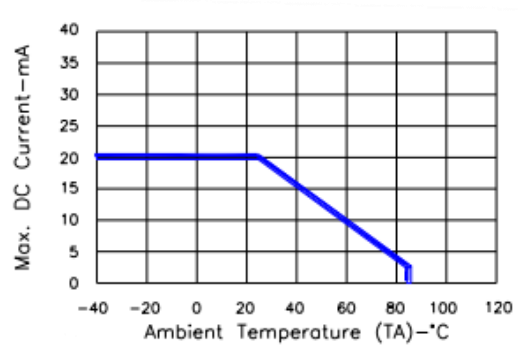


Relative Intensity VS. Wavelength

IG (True Green)



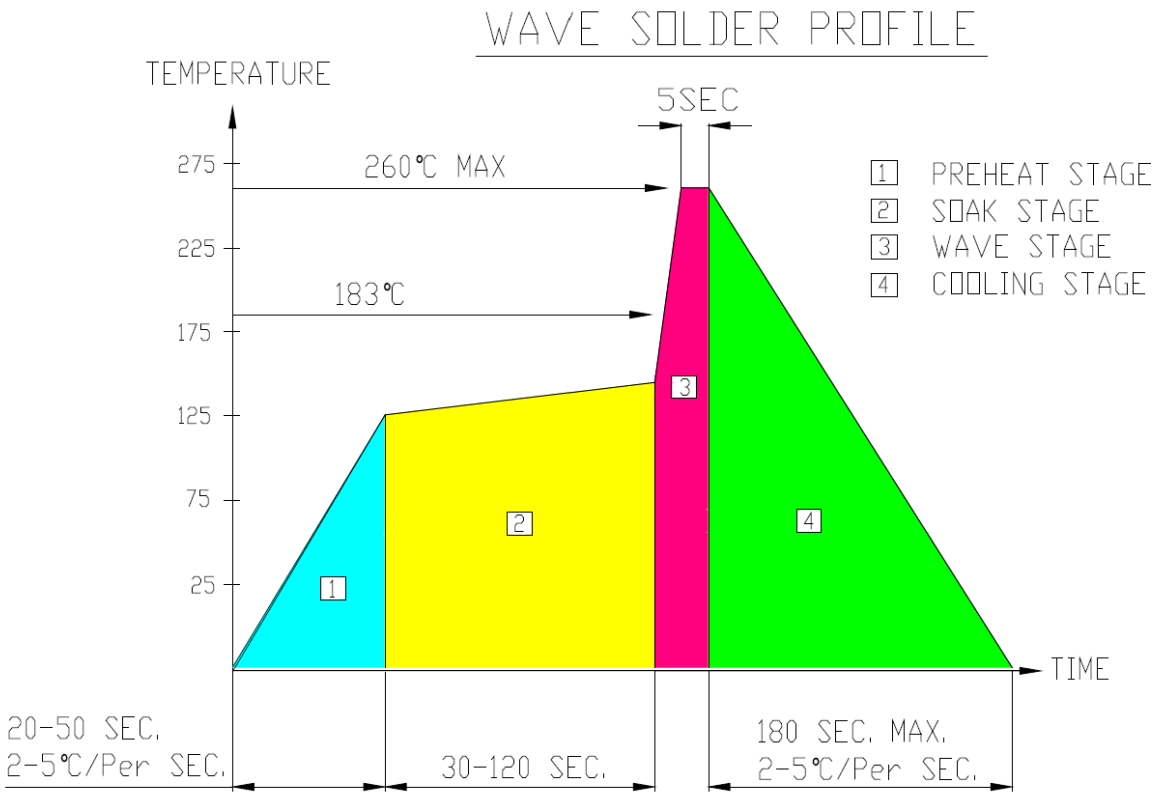
Relative Intensity VS. Wavelength



Max. Allowable DC Current
VS. Ambient Temperature

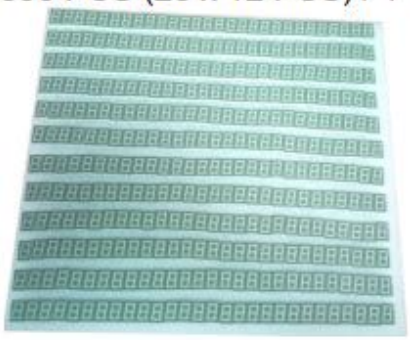
Solder Profile

Recommended Solder Profile

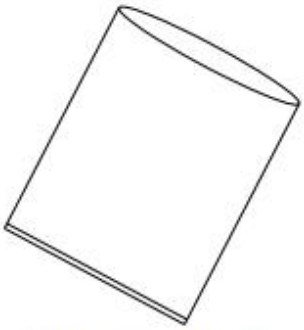


Packing

336 PCS (28 x 12 PCS) / 1 White Polyform

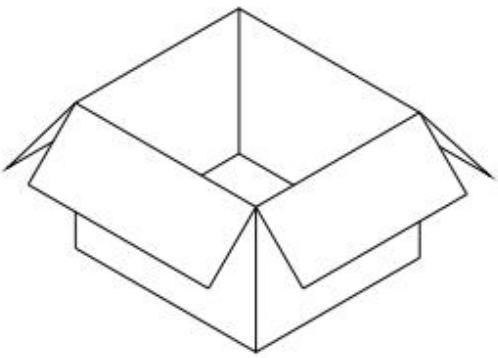


13 White Polyform / 1 BAG



BAG SIZE : 450X410X760

4368 PCS / 1 BAG / 1Inner Carton



OUTER BOX SIZE : 430 x 390 x 300 mm

Ordering Information

Product		Orderable Part #		Spec Range	Quantity per foam
CC	**CA**	**CC**	**CA**		
QBS56R1	QBS56R0	QBS56R1	QBS56R0	Iv=60mcd typ. @ I_F=20mA, λ_D=624nm typ.	336pcs
QBS56S1	QBS56S0	QBS56S1	QBS56S0	Iv=20mcd typ. @ I_F=20mA, λ_D=639nm typ.	336pcs
QBS56Y1	QBS56Y0	QBS56Y1	QBS56Y0	Iv=60mcd typ. @ I_F=20mA, λ_D=590nm typ.	336pcs
QBS56O1	QBS56O0	QBS56O1	QBS56O0	Iv=60mcd typ. @ I_F=20mA, λ_D=606nm typ.	336pcs
QBS56AG1	QBS56AG0	QBS56AG1	QBS56AG0	Iv=20mcd typ. @ I_F=20mA, λ_D=571nm typ.	336pcs
QBS56IG1	QBS56IG0	QBS56IG1	QBS56IG0	Iv=250mcd typ. @ I_F=20mA, λ_D=525nm typ.	336pcs
QBS56IB1	QBS56IB0	QBS56IB1	QBS56IB0	Iv=60mcd typ. @ I_F=20mA, λ_D=465nm typ.	336pcs

Revision History

Description:	Revision #	Revision Date
New Release of QBS56XXZ_series	V1.0	06/24/2011
Amend Pin Configuration	V1.1	12/19/2011
Add Orange Color spec	V1.2	02/13/2012
Updated binning and packing specs	V1.3	03/06/2012
Update format	V1.4	05/29/2012
Add more color option, update spec	V1.5	04/17/2015
Update spec and packing method / add λ_P	V1.6	05/12/2022

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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.