

QT-Brightek SMD Display Series

0.40" Single Digit Display

Part No.: QBSS40ZXX

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 & Footprint.....	8
Packing & Labeling	9
Ordering Information	10
Revision History	11
Disclaimer	11

Product: QBSS40ZXX	Date: September 01, 2015	Page 2 of 11
	Version# 1.2	

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

Product		Material	Color	I _F (mA)	V _F (V)		λ _d (nm)			I _V (mcd)
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.
QBSS401R	QBSS400R	AllnGaP	Red	20	2.0	2.6	--	624	--	38
QBSS401S	QBSS400S	AllnGaP	Deep Red	20	2.0	2.6	--	640	--	10
QBSS401Y	QBSS400Y	AllnGaP	Yellow	20	2.0	2.6	--	590	--	20
QBSS401O	QBSS400O	AllnGaP	Orange	20	2.0	2.6	--	610	--	20
QBSS401AG	QBSS400AG	AllnGaP	Yellow Green	20	2.0	2.6	--	570	--	10
QBSS401IG	QBSS400IG	InGaN	True Green	20	2.8	3.8	--	525	--	160
QBSS401IB	QBSS400IB	InGaN	Blue	20	3.1	4.0	--	470	--	20

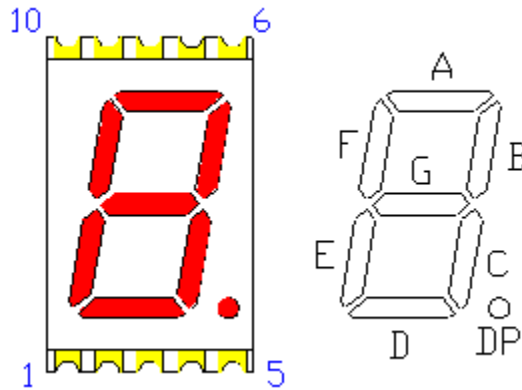
Absolute Maximum Rating

Material	P _d (mW)	Derating linear from 25°C per dice (mA/°C)	I _F (mA)	I _{PF} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
AllnGaP	70	0.28	25	90	5	-40 to +105	-40 to +105	260
InGaN	120	0.3	30	100	5	-40 to +105	-40 to +105	260

*Duty 1/10 @ 1KHz

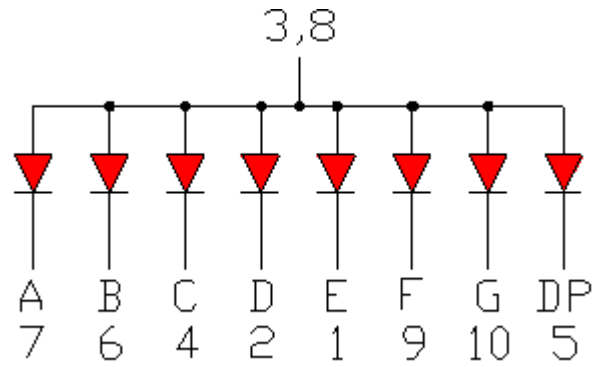
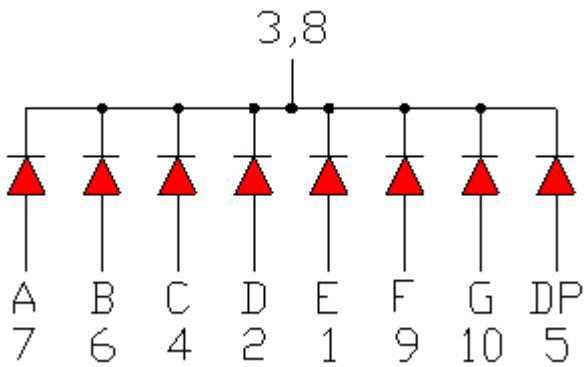
**IR Reflow for no more than 5 sec @ 260 °C

Pin Configuration



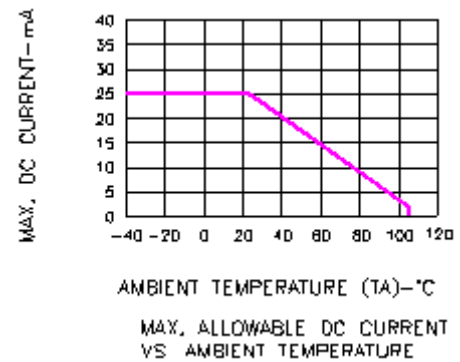
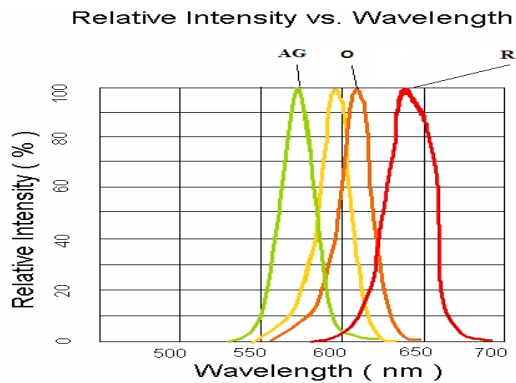
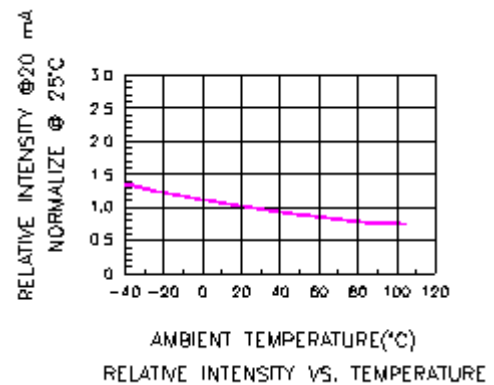
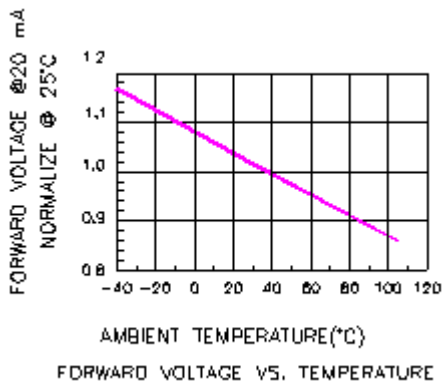
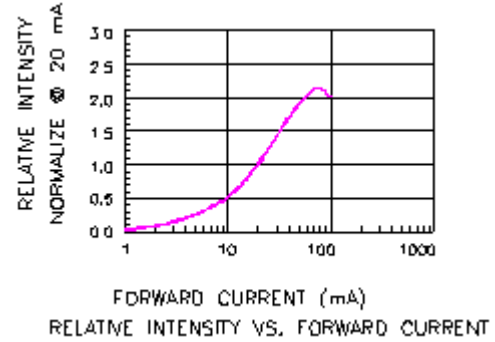
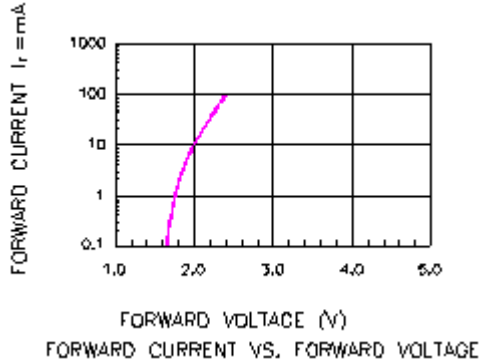
CC

CA

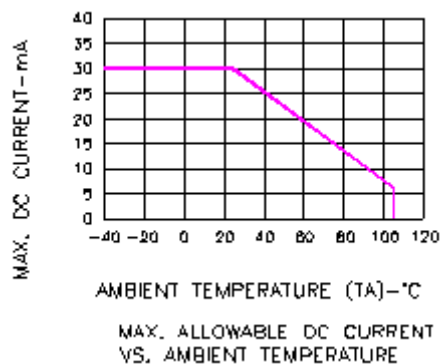
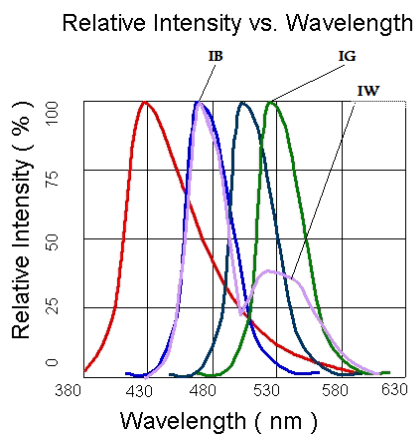
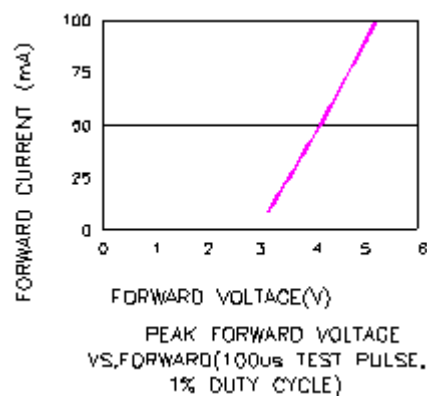
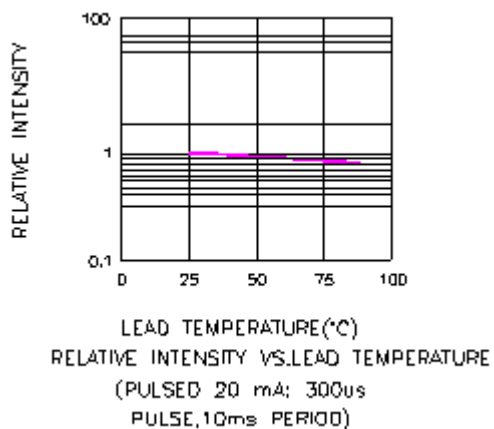
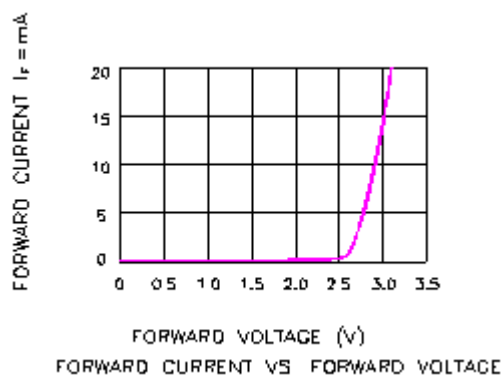
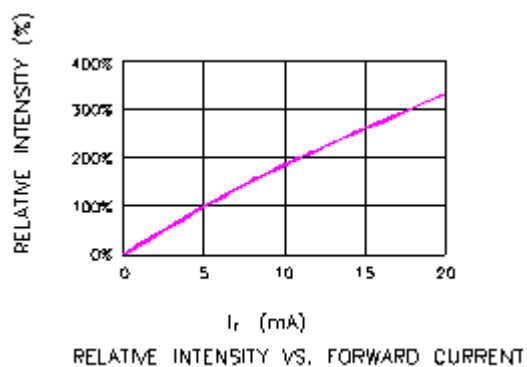


Characteristic Curves

AllnGaP

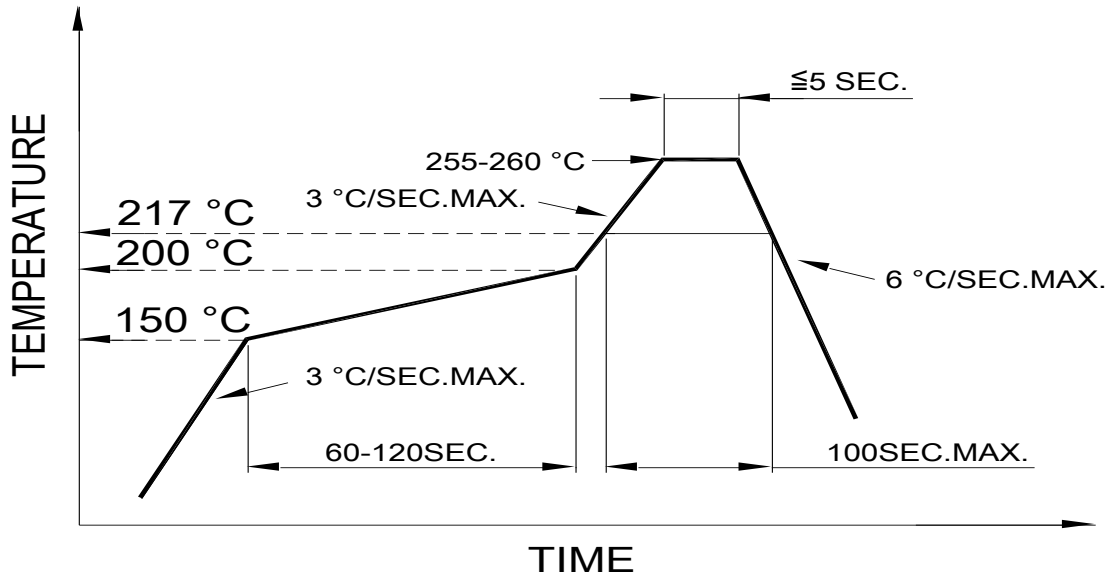


InGaN

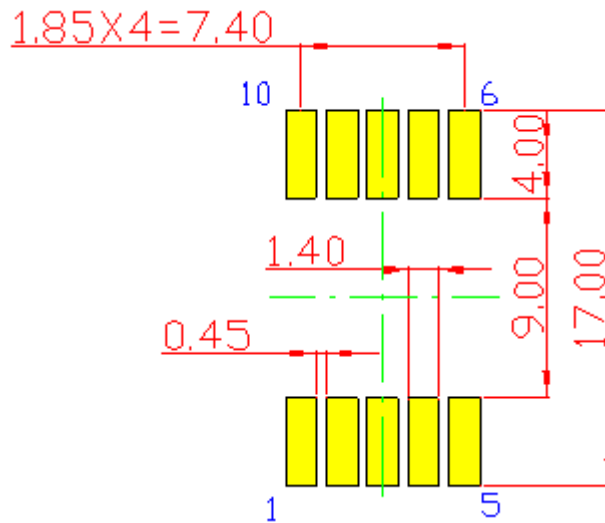


Solder Profile & Footprint

Pb free reflow soldering Profile



Recommended Pad Layout

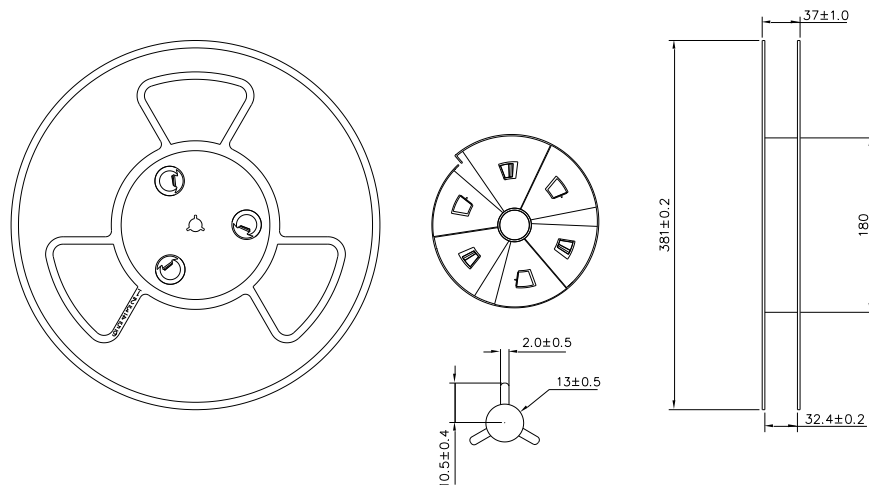


Units: mm

Tolerance: ±0.25mm

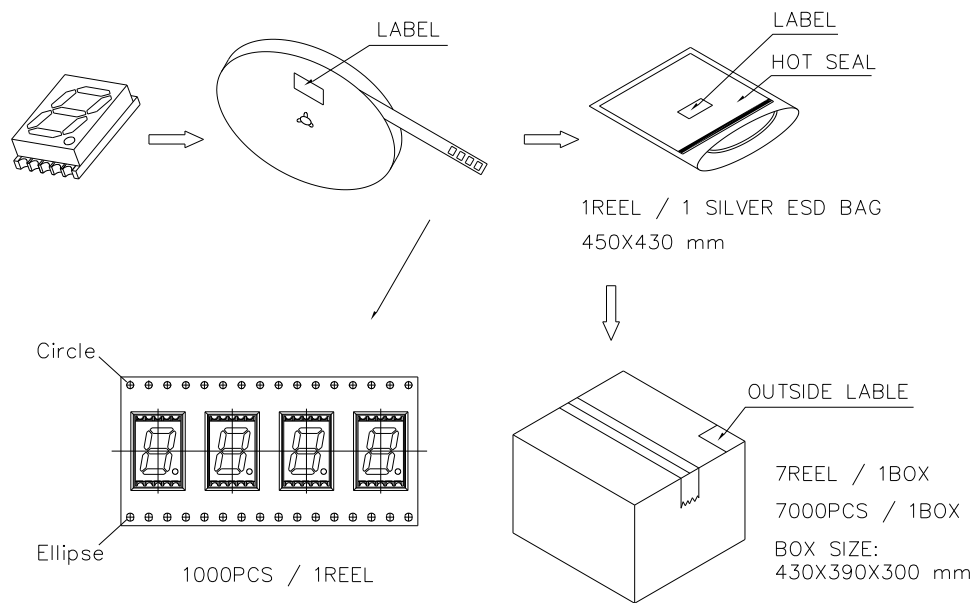
Packing & Labeling

Reel Dimension:



Unit: mm

Packing Method:



Product: QBSS40ZXX	Date: September 01, 2015	Page 9 of 11
	Version# 1.2	

Ordering Information

Product		Orderable Part #		Spec Range	Quantity per Reel
CC	CA	CC	CA		
QBSS401R	QBSS400R	QBSS401R	QBSS400R	Iv=38mcd typ. @ I _F =20mA / λ _D :625nm typ.	1000
QBSS401S	QBSS400S	QBSS401S	QBSS400S	Iv=10mcd typ. @ I _F =20mA / λ _D :640nm typ.	1000
QBSS401Y	QBSS400Y	QBSS401Y	QBSS400Y	Iv=20mcd typ. @ I _F =20mA / λ _D :590nm typ.	1000
QBSS401O	QBSS400O	QBSS401O	QBSS400O	Iv=20mcd typ. @ I _F =20mA / λ _D :610nm typ.	1000
QBSS401AG	QBSS400AG	QBSS401AG	QBSS400AG	Iv=10mcd typ. @ I _F =20mA / λ _D :570nm typ.	1000
QBSS401IG	QBSS400IG	QBSS401IG	QBSS400IG	Iv=160mcd typ. @ I _F =20mA / λ _D :525nm typ.	1000
QBSS401IB	QBSS400IB	QBSS401IB	QBSS400IB	Iv=20mcd typ. @ I _F =20mA / λ _D :470nm typ.	1000

Revision History

Description:	Revision #	Revision Date
New Release of QBSS40ZXX	V1.0	09/25/2013
Add Packing spec	V1.1	03/25/2014
Update Spec	V1.2	09/01/2015

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.

Product: QBSS40ZXX	Date: September 01, 2015	Page 11 of 11
	Version# 1.2	