

# QT-Brightek SMD Display Series

## 0.56" Single Digit Display

**Part No.: QBSS56ZXX**

**XX= Color**

**Z= 1: Common Cathode**

**Z = 0: Common Anode**

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## Introduction

**Feature:**

- 0.56" Single digit seven segments display
- Low power consumption
- Packed in reel
- White segment and grey surface
- XX = color code
- X=1: Common Cathode or 0: Common Anode

**Description:**

These 0.56" Single digit seven segments displays are made with white segment and grey surface. The viewing distance is up to seven meters.

**Application:**

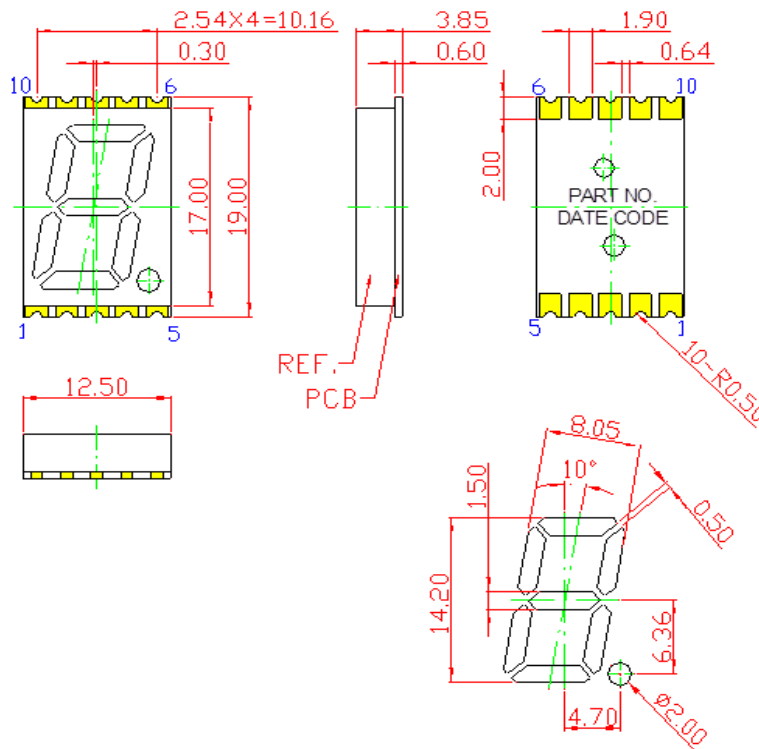
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.25mm

**Electrical / Optical Characteristic: (T=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.
QBSS561S	QBSS560S	AllnGaP	Deep Red	20	2.0	2.6	--	640	--	4
QBSS561R	QBSS560R	AllnGaP	Red	20	2.0	2.6	--	625	--	25
QBSS561Y	QBSS560Y	AllnGaP	Yellow	20	2.0	2.6	--	590	--	25
QBSS561AG	QBSS560AG	AllnGaP	Yellow Green	20	2.0	2.6	--	570	--	10
QBSS561IB	QBSS560IB	InGaN	Blue	20	3.0	4.0	--	470	--	30
QBSS561IG	QBSS560IG	InGaN	Green	20	3.0	4.0	--	525	--	90
QBSS561O	QBSS560O	AllnGaP	Orange	20	2.0	2.6	--	610	--	25
							<b>Chromaticity coordinate</b>			
QBSS561IW	QBSS560IW	InGaN	White	5	2.9	3.4	--	X:0.29 Y:0.29	--	35

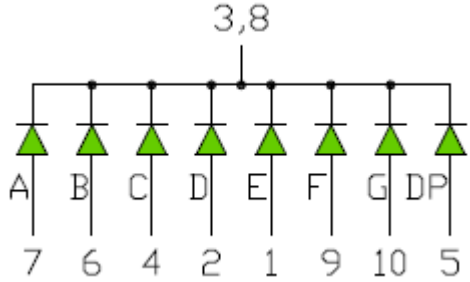
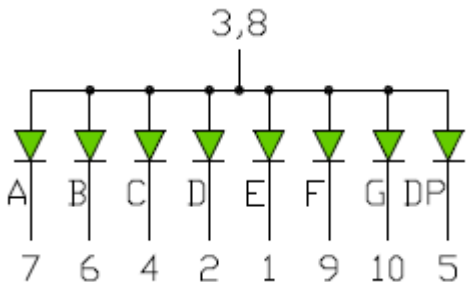
**Absolute Maximum Rating**

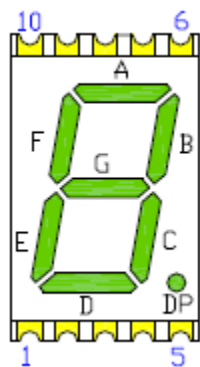
Material	P <sub>d</sub> (mW)	Derating linear from 25C per dice (mA/C)	I <sub>F</sub> (mA)	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SOL</sub> (°C)**
AllnGaP	70	0.28	25	5	-40 to + 105	-40 to +105	260
InGaP	120	0.3	30	5	-40 to +105	-40 to +105	260

\*Duty 1/10 @ 1KHz

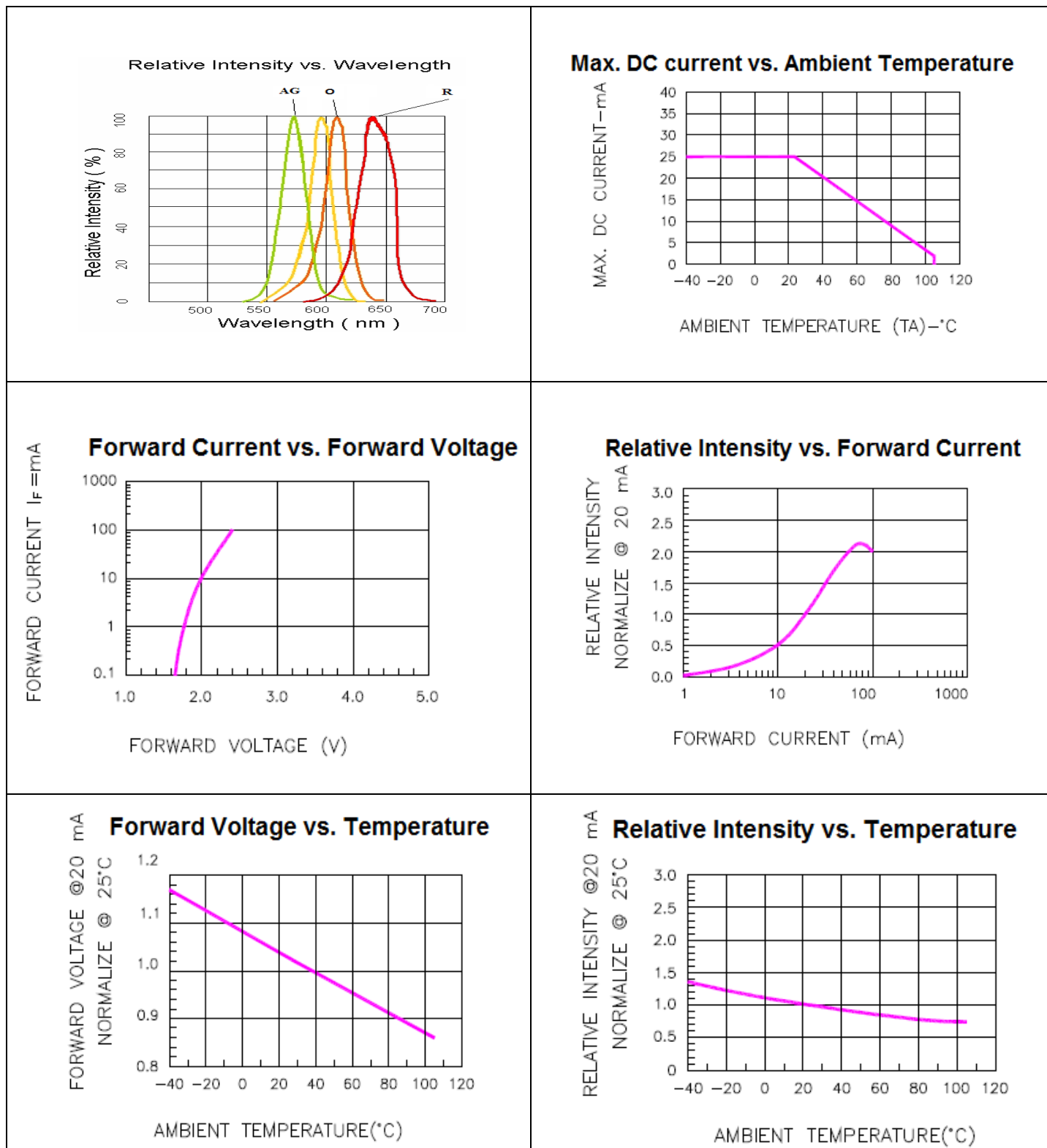
\*\* IR Reflow for no more than 5 sec @ 260 °C

**Pin Configuration**

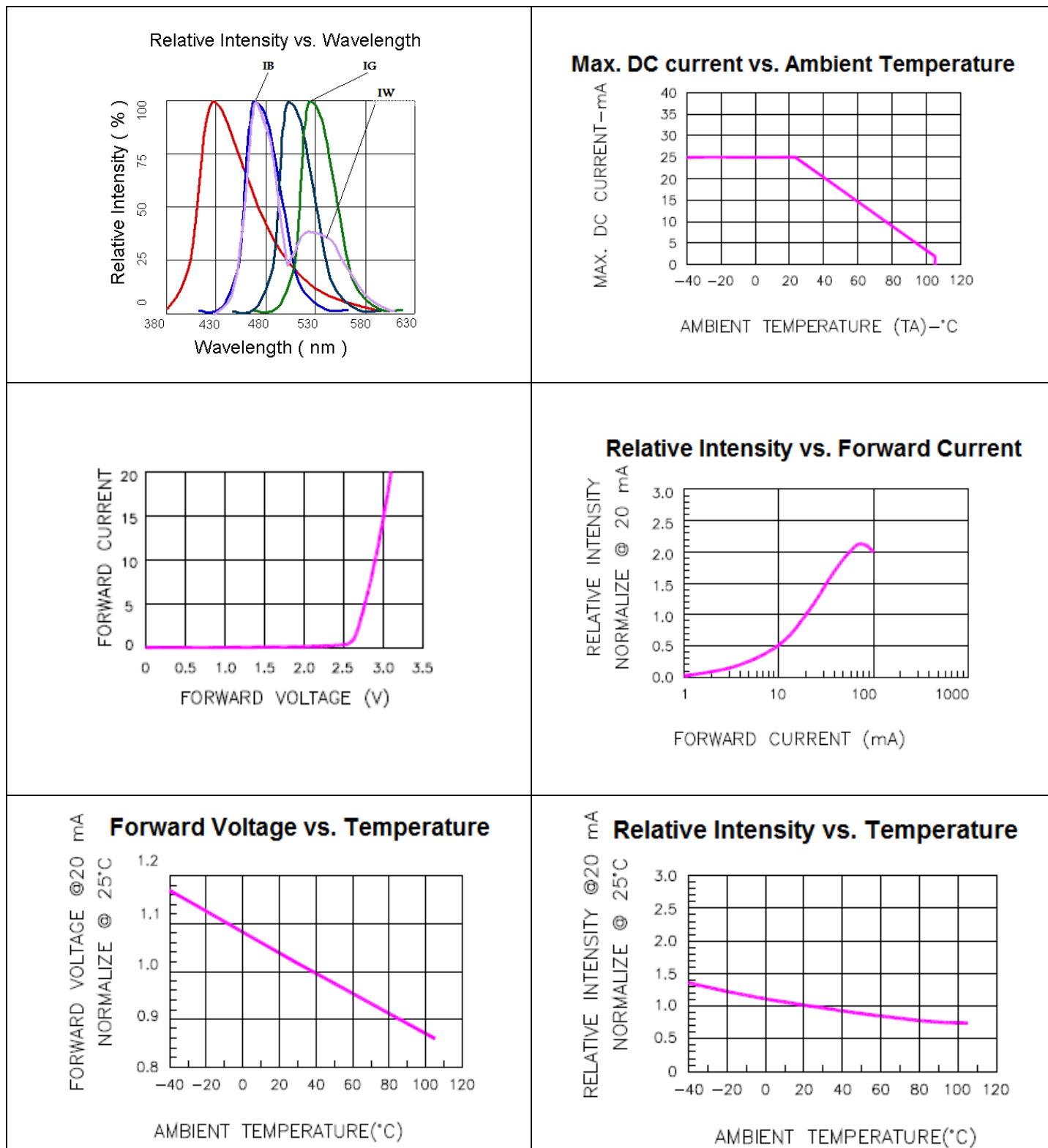
CC	CA
	



**Characteristic Curves: (AlInGaP)**



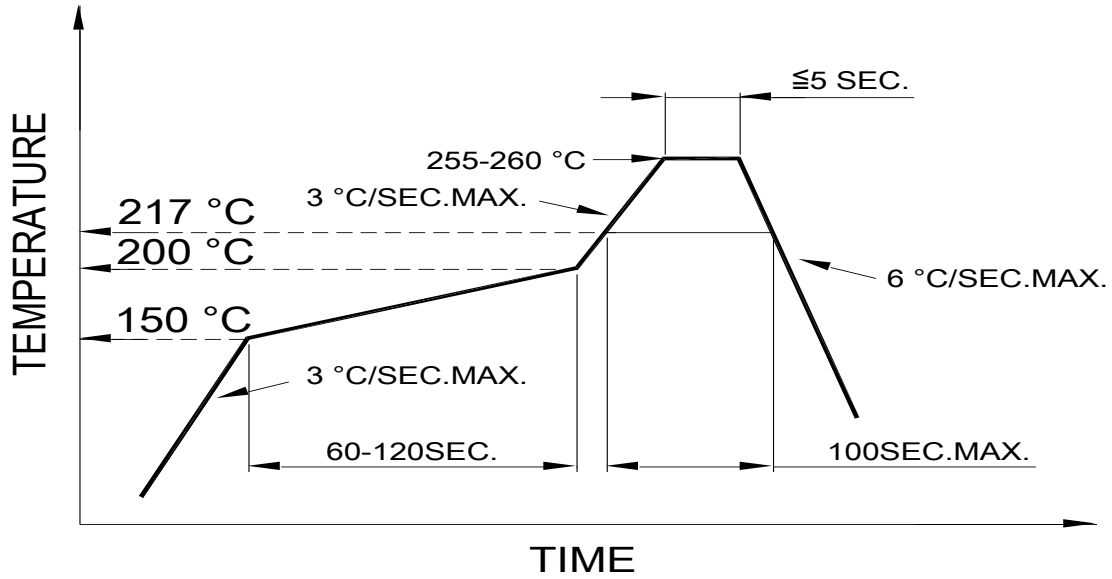
### Characteristic Curves: (InGaN)



## Solder Profile & Footprint

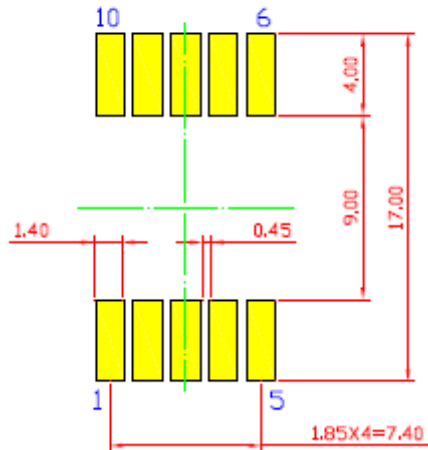
Lead-free Solder Profile:

Pb free reflow soldering Profile



Soldering Profile:

Recommended Soldering Pattern



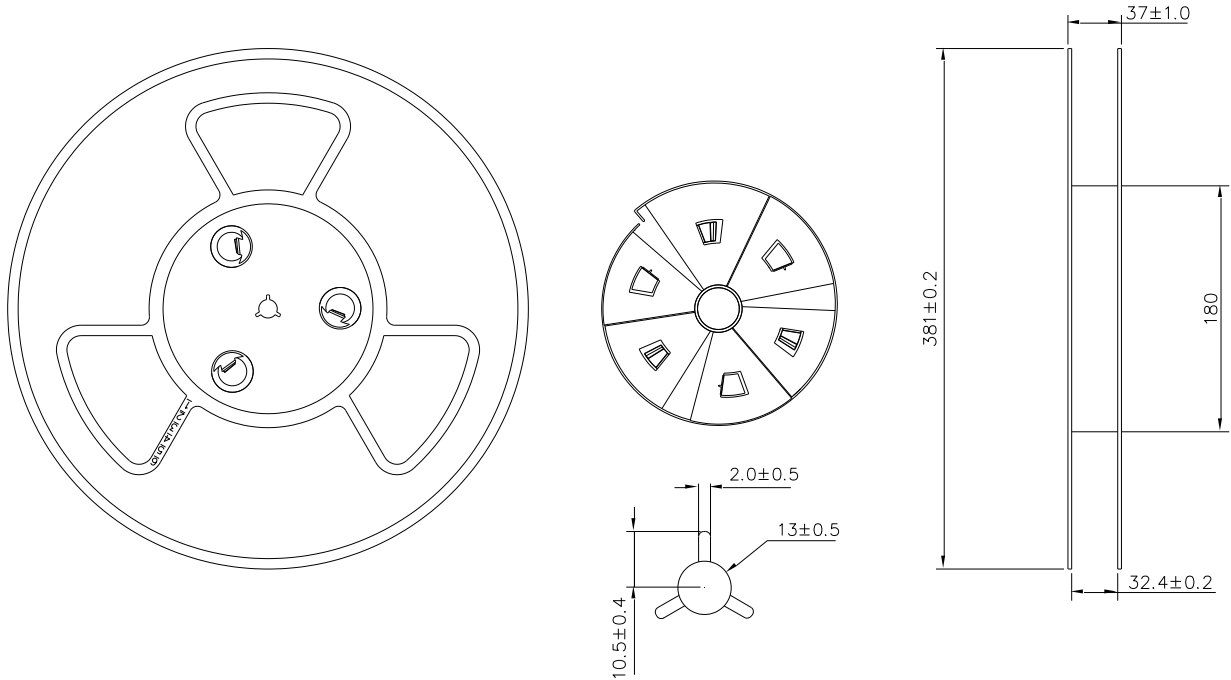
Units: mm / tolerance = +/-0.25mm

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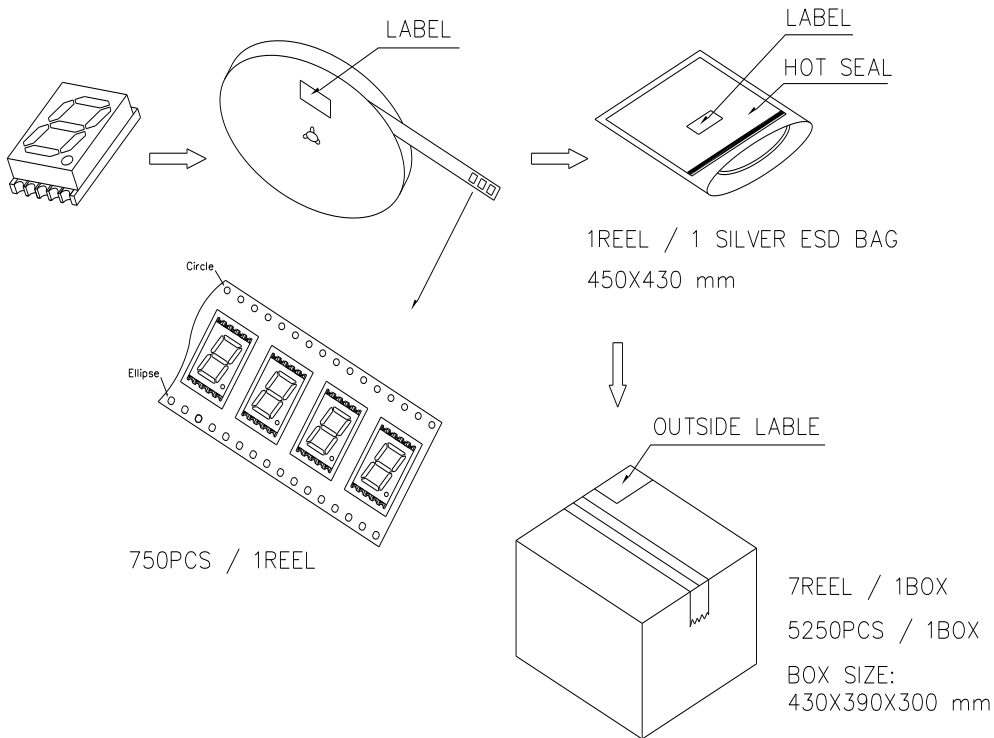


## Packing & Labeling

Reel Dimension:



Packing:



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Part No: \_\_\_\_\_  
 Customer P/N: \_\_\_\_\_  
 Item: \_\_\_\_\_  
 Q'ty: \_\_\_\_\_  
 Vf: \_\_\_\_\_  
 Iv: \_\_\_\_\_  
 WI: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Made in Taiwan**

### Ordering Information

Product		Orderable Part #		Spec Range	Quantity per Reel
CC	CA	CC	CA		
QBSS561S	QBSS560S	QBSS561S	QBSS560S	Iv=4 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 640nm Typ.	750
QBSS561R	QBSS560R	QBSS561R	QBSS560R	Iv=25 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 625nm Typ.	750
QBSS561Y	QBSS560Y	QBSS561Y	QBSS560Y	Iv=25 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 590nm Typ.	750
QBSS561AG	QBSS560AG	QBSS561AG	QBSS560AG	Iv=10 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 570nm Typ.	750
QBSS561IB	QBSS560IB	QBSS561IB	QBSS560IB	Iv=30 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 470nm Typ.	750
QBSS561IG	QBSS560IG	QBSS561IG	QBSS560IG	Iv=90 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 525nm Typ.	750
QBSS561O	QBSS560O	QBSS561O	QBSS560O	Iv=25 mcd Typ. @ I <sub>F</sub> = 20mA/ Color: 610nm Typ.	750
QBSS561IW	QBSS560IW	QBSS561IW	QBSS560IW	Iv=35 mcd Typ. @ I <sub>F</sub> = 5mA/ (X,Y)=(0.29,0.29)	750

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## Revision History

Description:	Revision #	Revision Date
New Release of QBS56ZXX	V1.0	06/24/2011
Amend format and optical spec	V1.1	12/12/2013
Add Packing spec	V1.2	03/24/2014

## 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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