

# QT-Brightek SMD Display Series

## 0.40" Four Digit SMD Display

**Part No.: QBQS40ZXX**

**XX= Color**

**Z= 1: Common Cathode**

**Z = 0: Common Anode**



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## Introduction

### Feature:

- 0.40" four digit seven segments display
- Low power consumption
- Packed in tape & reel
- White segment and grey surface
- XX = color code
- Z=1: Common Cathode or 0: Common Anode

### Description:

These 0.40" four digit seven segments displays are made with white segment and grey surface. The viewing distance is up to seven meters.

### Application:

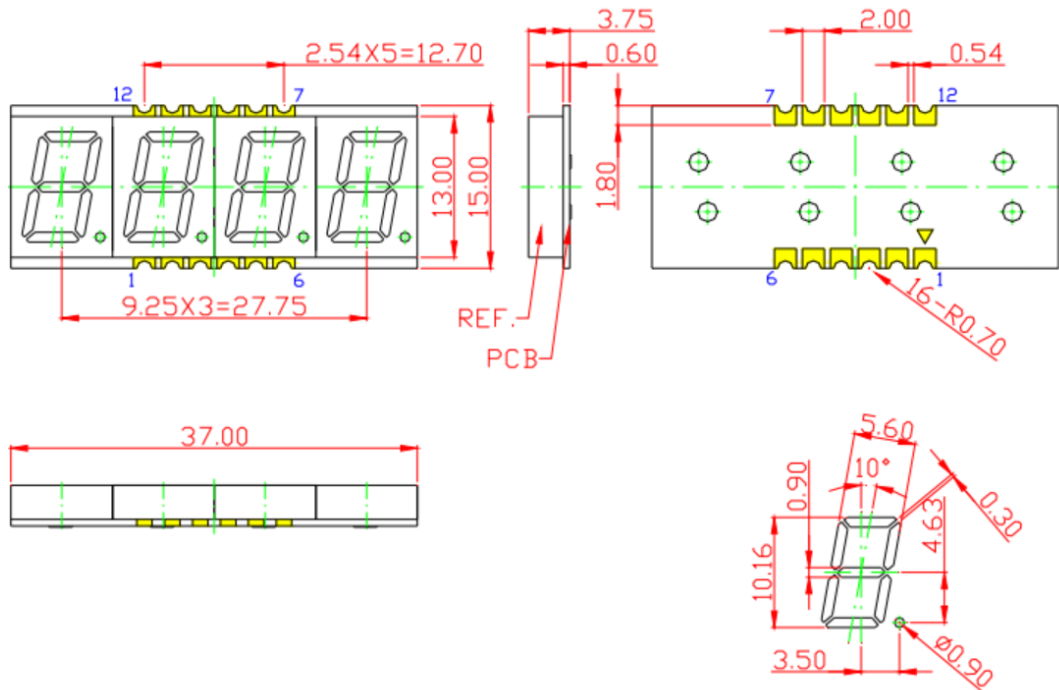
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

### Certification & Compliance:

- 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.
QBQS401R	QBQS400R	AllnGaP	Red	20	2.1	2.4	619	625	629	40
QBQS401S	QBQS400S	AllnGaP	Deep Red	20	2.1	2.4	635	640	648	10
QBQS401O	QBQS400O	AllnGaP	Orange	20	2.0	2.4	601	610	613	43
QBQS401Y	QBQS400Y	AllnGaP	Yellow	20	2.1	2.4	585	590	595	43
QBQS401AG	QBQS400AG	AllnGaP	Yellow Green	20	2.1	2.4	567	571	576	18
QBQS401IG	QBQS400IG	InGaN	True Green	20	3.0	3.4	515	520	530	340
QBQS401IB	QBQS400IB	InGaN	Blue	20	3.0	3.4	466	470	474	60

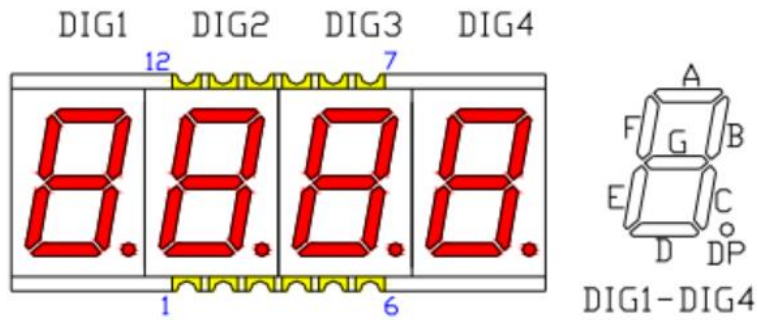
**Absolute Maximum Rating**

Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)*	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SO L</sub> (°C)**
AllnGaP	48	20	40	5	-40 to +105	-40 to +105	260
InGaN	90	30	60	5	-40 to +105	-40 to +105	260

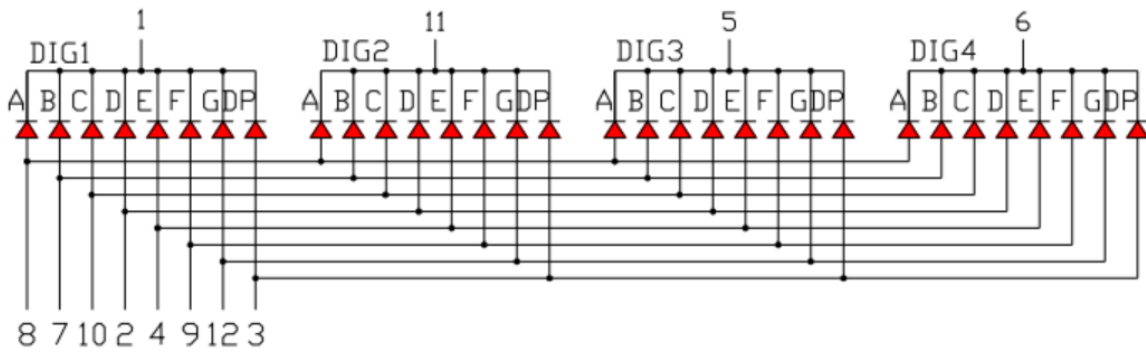
\*Duty 1/10 @ 1KHz

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

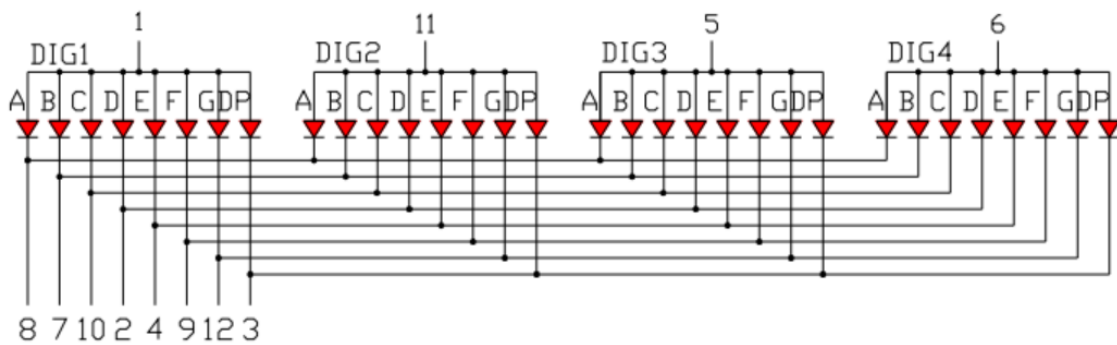
## Pin Configuration



### CC

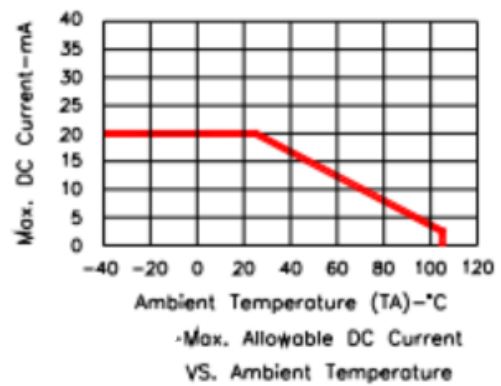
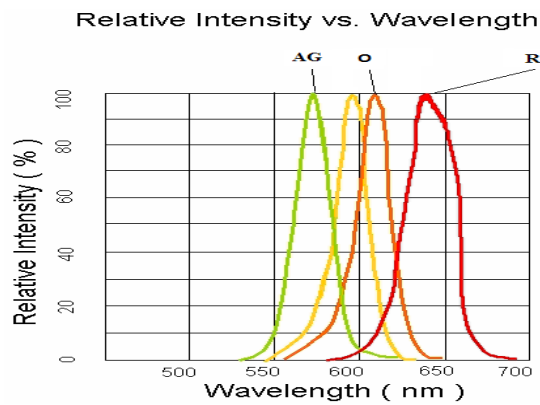
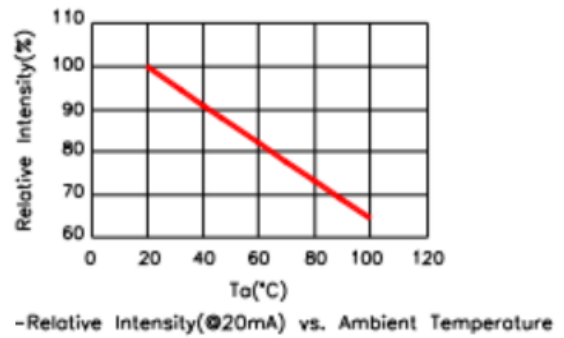
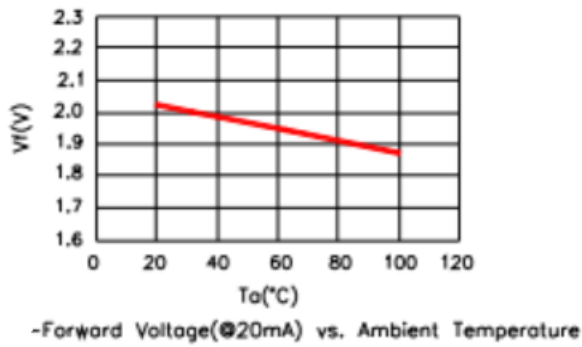
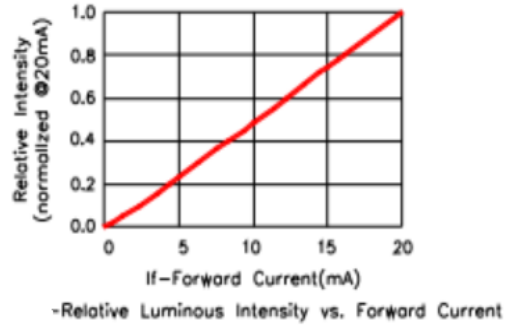
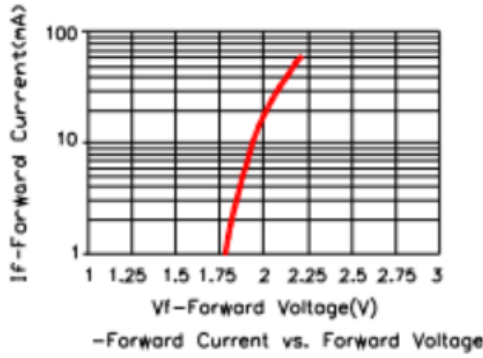


### CA

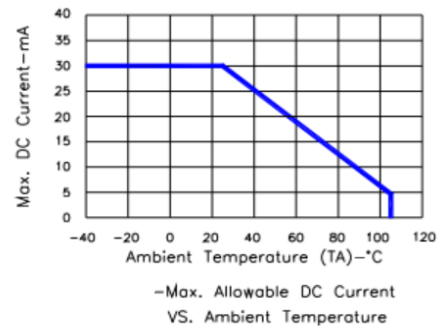
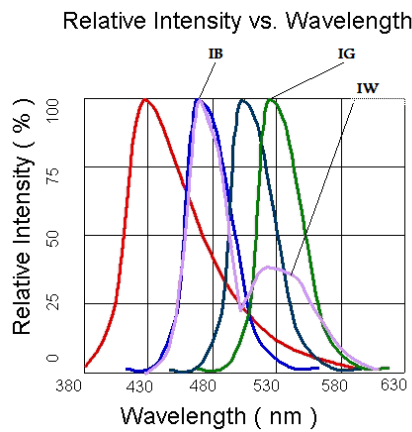
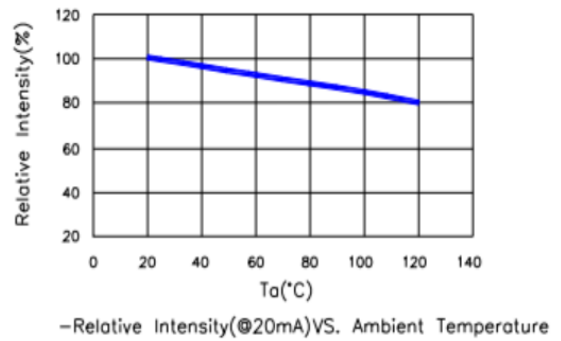
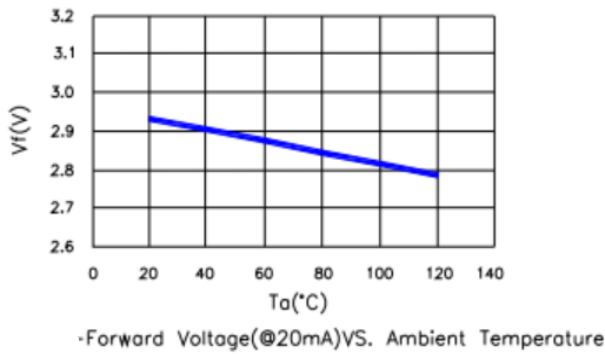
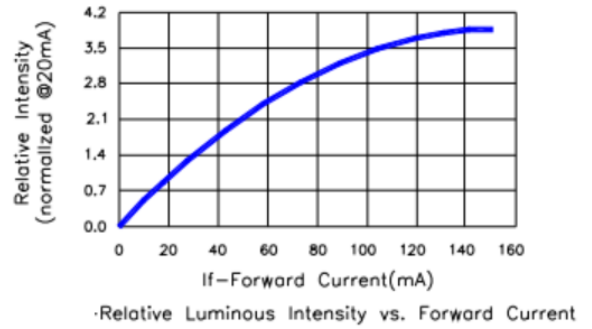
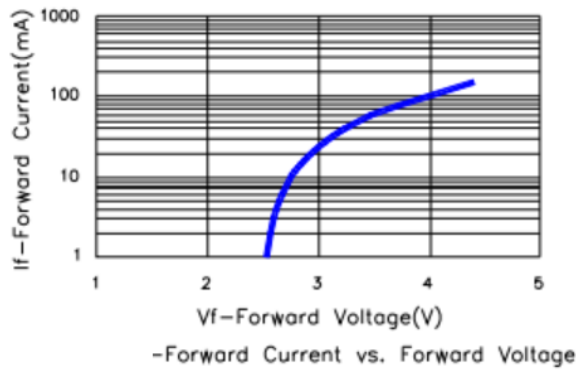


## Characteristic Curves

AllnGaP



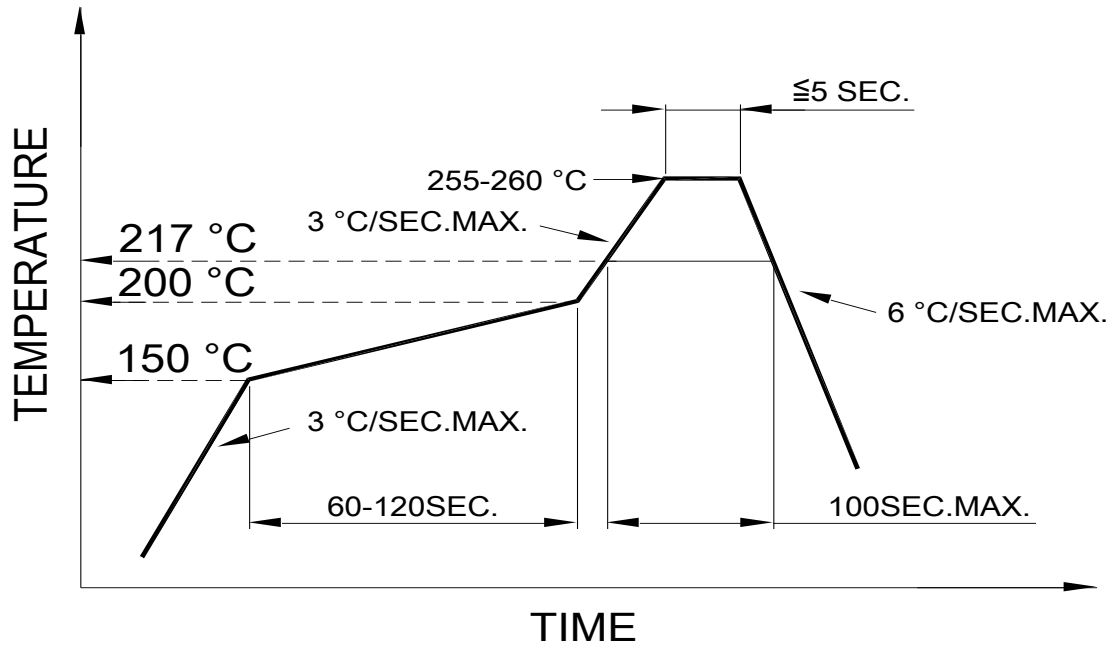
InGaN



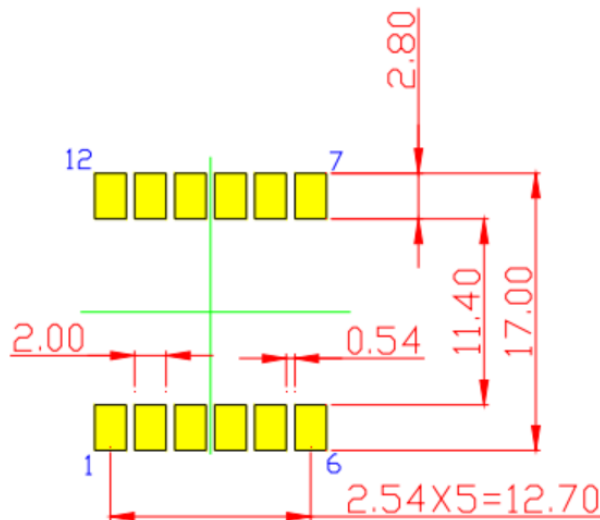
## Solder Profile & Footprint

### Lead-free Solder Profile:

#### Pb free reflow soldering Profile



### Recommended Pad Layout

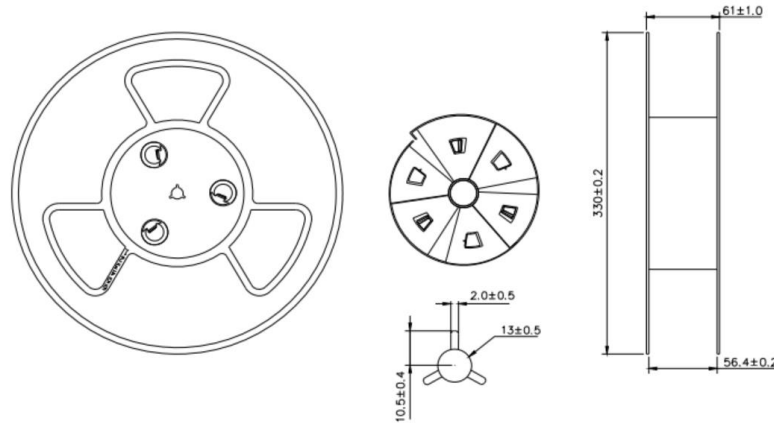


Units: mm



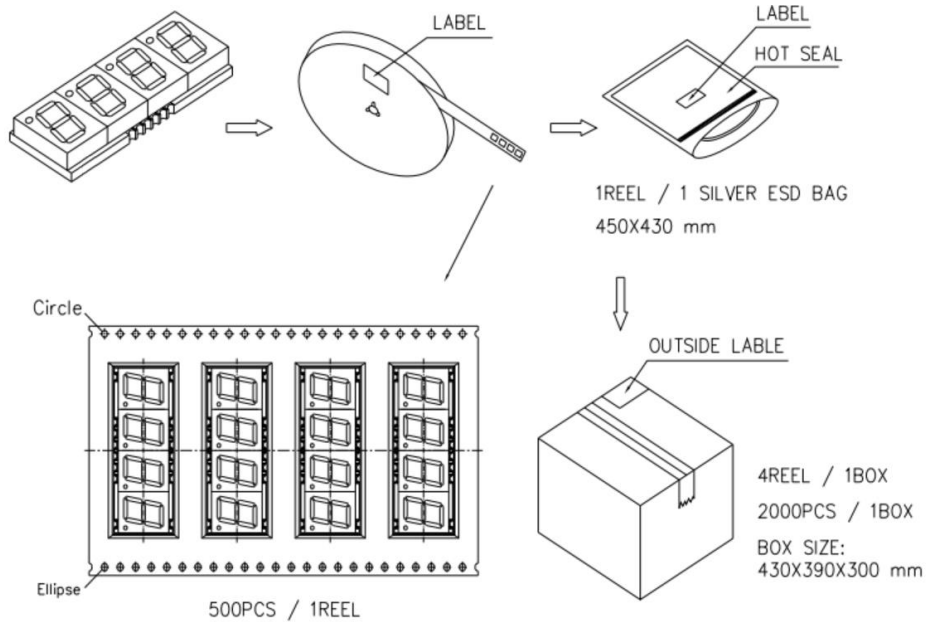
## Packing & Labeling

Reel Dimension:



Unit: mm

Packing and Label Specification:



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### Ordering Information

Product		Orderable Part #		Spec Range	Quantity per Reel
CC	CA	CC	CA		
QBQS401R	QBQS400R	QBQS401R	QBQS400R	I <sub>v</sub> =40mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 625nm typ.	500
QBQS401S	QBQS400S	QBQS401S	QBQS400S	I <sub>v</sub> =10mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 640nm typ.	500
QBQS401O	QBQS400O	QBQS401O	QBQS400O	I <sub>v</sub> =43mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 610nm typ.	500
QBQS401Y	QBQS400Y	QBQS401Y	QBQS400Y	I <sub>v</sub> =43mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 590nm typ.	500
QBQS401AG	QBQS400AG	QBQS401AG	QBQS400AG	I <sub>v</sub> =18mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 571nm typ.	500
QBQS401IG	QBQS400IG	QBQS401IG	QBQS400IG	I <sub>v</sub> =340mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 520nm typ.	500
QBQS401IB	QBQS400IB	QBQS401IB	QBQS400IB	I <sub>v</sub> =60mcd typ. @ I <sub>F</sub> =20mA, λ <sub>D</sub> : 470nm typ.	500

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## Revision History

Description:	Revision #	Revision Date
New Release of QBQS40ZXX	V1.0	03/25/2014
Update spec, add more color options	V1.1	11/20/2015
Update PCB drawing, specs and brightness	V2.0	03/15/2021

## Disclaimer

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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.