

QT-Brightek SMD Display Series

0.39" Dual Digit SMD Display

Part No.: QBDS39ZXX

XX= Color

Z= 1: Common Cathode

Z = 0: Common Anode

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Introduction

Feature:

- 0.39" dual 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 0.39" dual digit seven segments displays are made with white segment and grey surface. The viewing distance is up to seven meters.

Application:

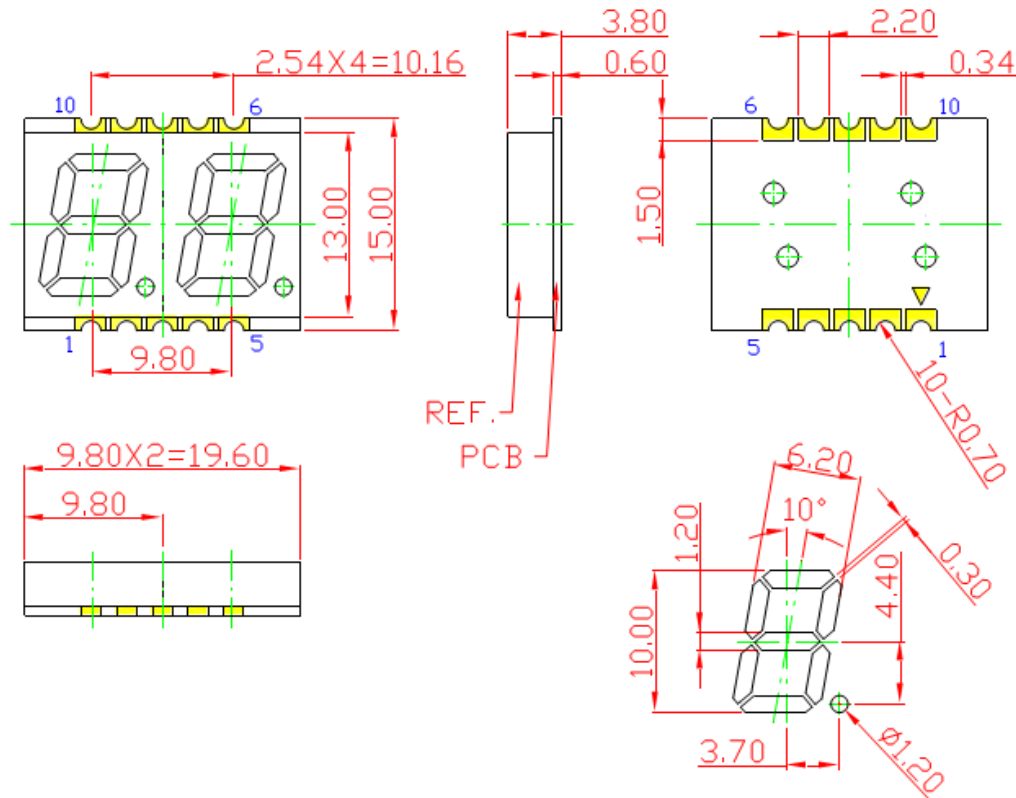
- Instrument panels
- Indoor/Outdoor display board
- Audio equipment

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Dimension:



Units: mm / tolerance = +/-0.25mm

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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.
QBDS391R	QBDS390R	AllnGaP	Red	20	2.0	2.6	-	625	-	50
QBDS391S	QBDS390S	AllnGaP	Deep Red	20	2.0	2.6	-	640	-	10
QBDS391Y	QBDS390Y	AllnGaP	Yellow	20	2.0	2.6	-	590	-	40
QBDS391O	QBDS390O	AllnGaP	Orange	20	2.0	2.6	-	610	-	40
QBDS391AG	QBDS390AG	AllnGaP	Yellow Green	20	2.1	2.6	-	571	-	15
QBDS391IG	QBDS390IG	InGaN	True Green	20	3.2	4.0	-	520	-	100
QBDS391IB	QBDS390IB	InGaN	Blue	20	3.1	4.0	-	470	-	60

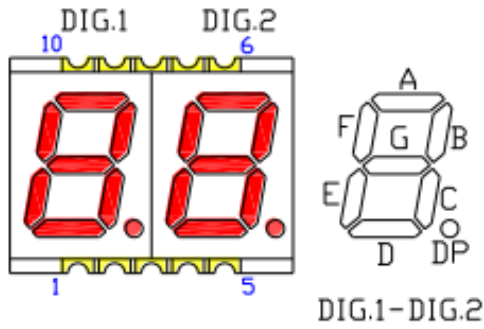
Absolute Maximum Rating

Material	P _d (mW)	Derating linear from 25C per dice (mW/C)	I _F (mA)	I _{FP} (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

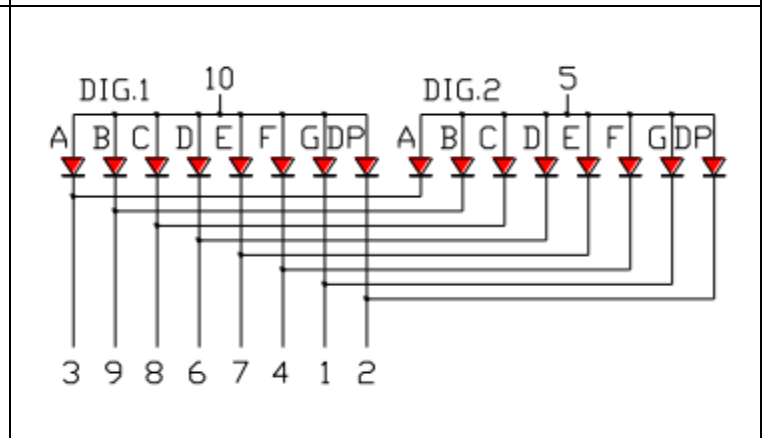
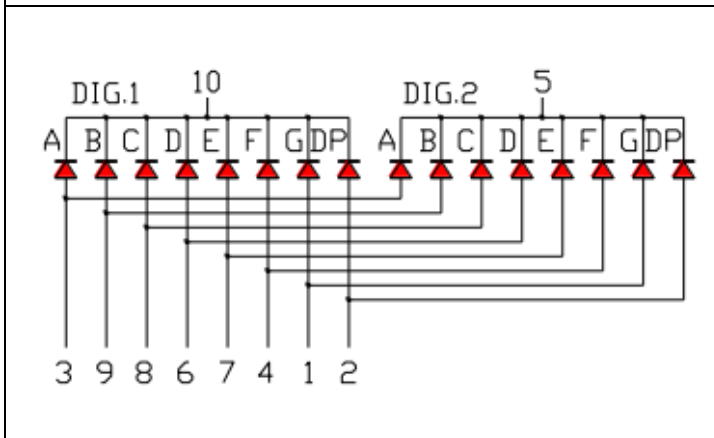
**IR Reflow for no more than 5 sec @ 260 °C

Pin Configuration



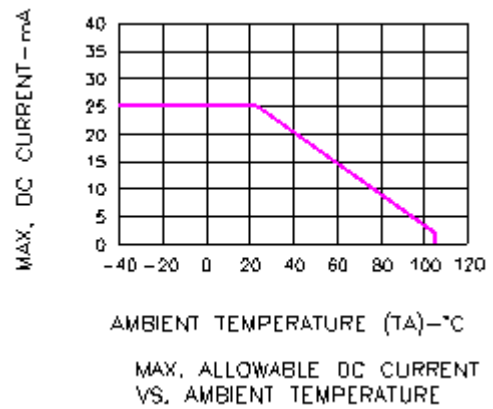
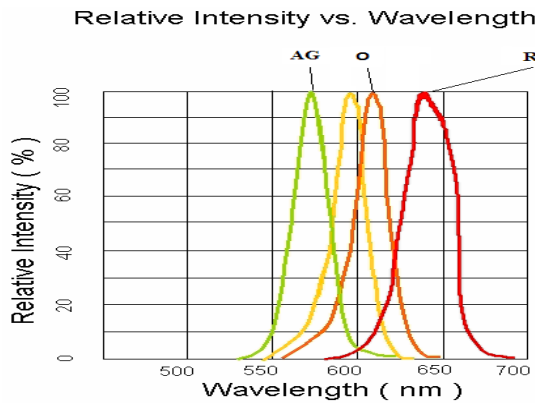
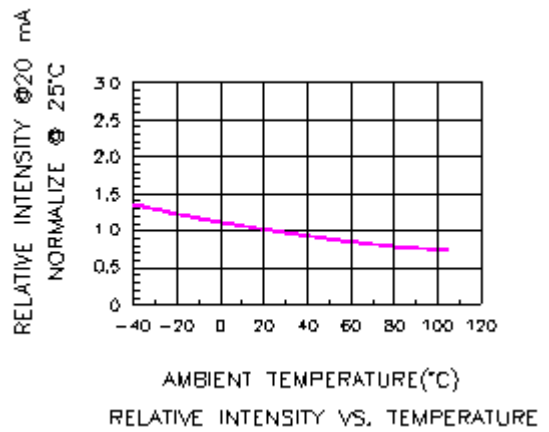
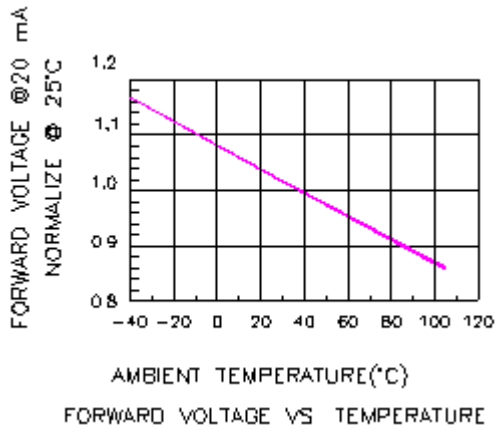
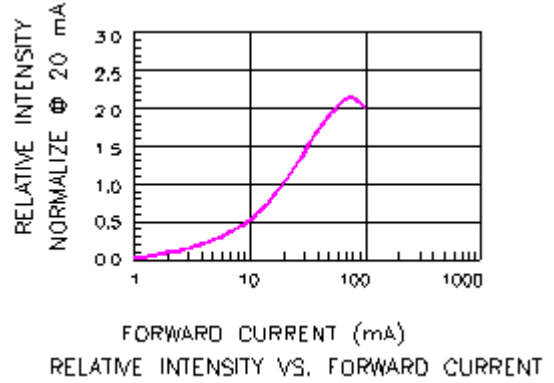
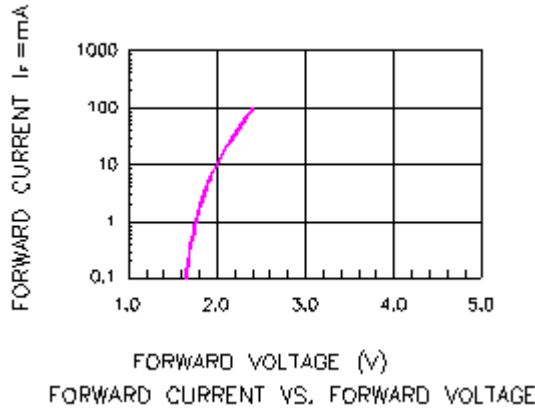
CC

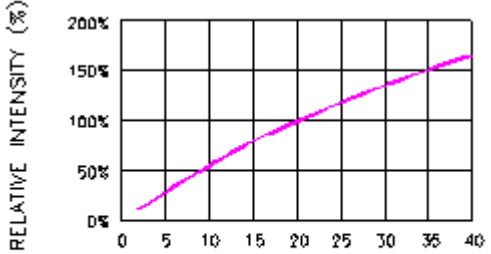
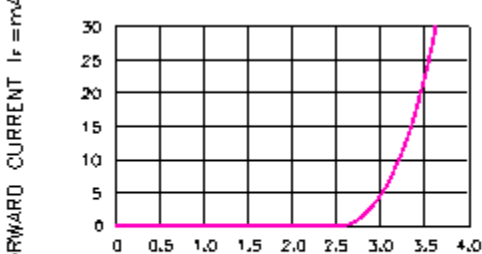
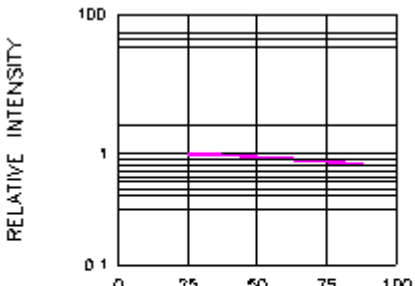
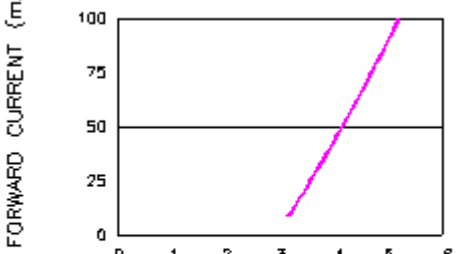
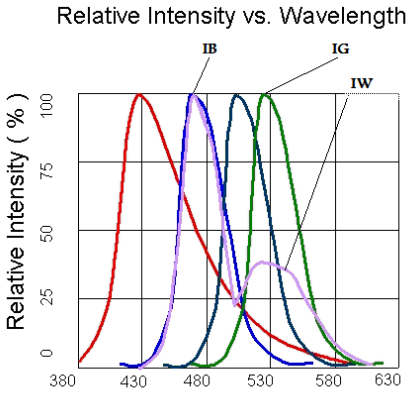
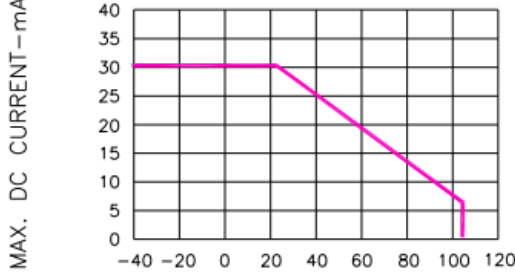
CA



Characteristic Curves

AllnGaP

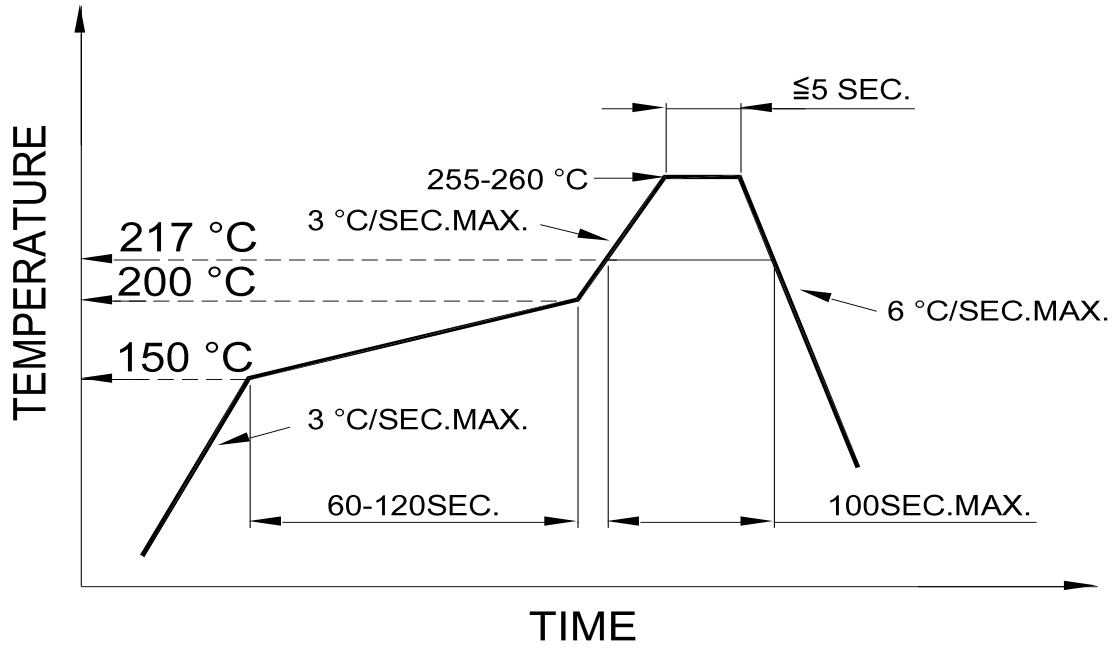


InGaN	
 <p style="text-align: center;">$I_r \Phi 20\text{mA (mA)}$</p> <p style="text-align: center;">RELATIVE INTENSITY VS. FORWARD CURRENT</p>	 <p style="text-align: center;">FORWARD CURRENT VS. FORWARD VOLTAGE</p>
 <p style="text-align: center;">LEAD TEMPERATURE(°C)</p> <p>Fig.3 RELATIVE INTENSITY VS.LEAD TEMPERATURE (PULSED 20 mA; 300us PULSE,10ms PERIOD)</p>	 <p style="text-align: center;">FORWARD VOLTAGE(V)</p> <p>Fig.4 PEAK FORWARD VOLTAGE VS.FORWARD(100us TEST PULSE, 1% DUTY CYCLE)</p>
<p style="text-align: center;">Relative Intensity vs. Wavelength</p>  <p style="text-align: center;">Wavelength (nm)</p>	 <p style="text-align: center;">AMBIENT TEMPERATURE (TA)-°C</p> <p>Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE</p>

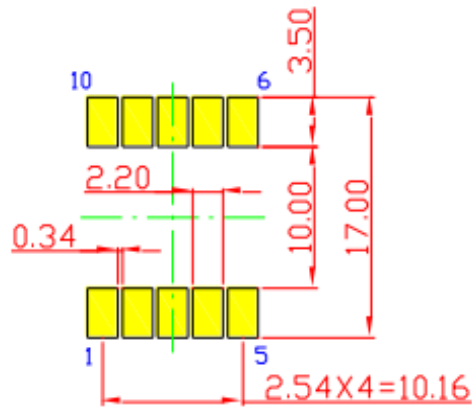
Solder Profile & Footprint

Lead-free Solder Profile:

Pb free reflow soldering Profile



Recommended Pad Layout

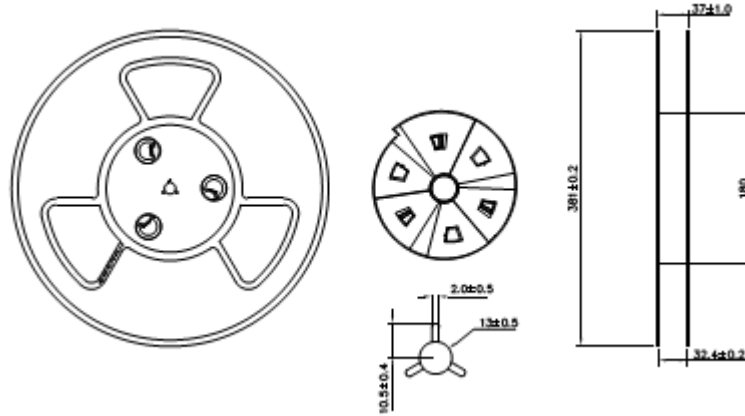


Units: mm

Tolerance: $\pm 0.25\text{mm}$

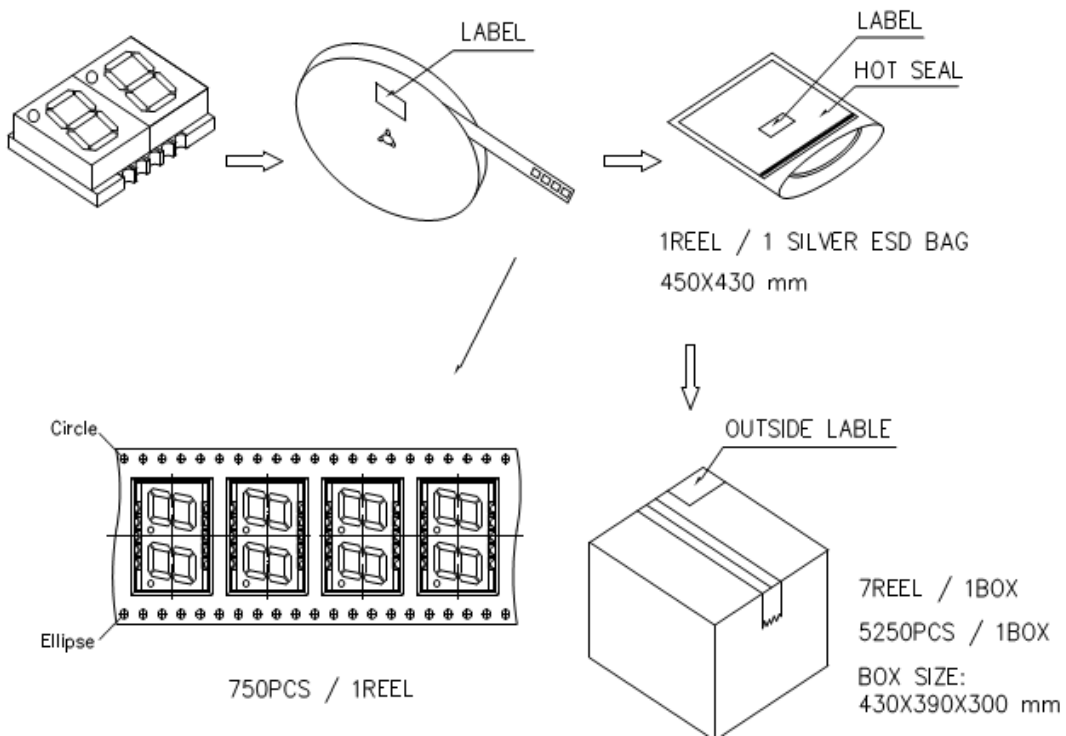
Packing & Labeling

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		
QBDS391R	QBDS390R	QBDS391R	QBDS390R	Iv=50mcd Typ. @ I _F =20mA, λ _D : 625nm typ.	750
QBDS391S	QBDS390S	QBDS391S	QBDS390S	Iv=10mcd Typ. @ I _F =20mA, λ _D : 640nm typ.	750
QBDS391Y	QBDS390Y	QBDS391Y	QBDS390Y	Iv=40mcd Typ. @ I _F =20mA, λ _D : 590nm typ.	750
QBDS391O	QBDS390O	QBDS391O	QBDS390O	Iv=40mcd Typ. @ I _F =20mA, λ _D : 610nm typ.	750
QBDS391AG	QBDS390AG	QBDS391AG	QBDS390AG	Iv=15mcd Typ. @ I _F =20mA, λ _D : 571nm typ.	750
QBDS391IG	QBDS390IG	QBDS391IG	QBDS390IG	Iv=100mcd Typ. @ I _F =20mA, λ _D : 520nm typ.	750
QBDS391IB	QBDS390IB	QBDS391IB	QBDS390IB	Iv=60mcd Typ. @ I _F =20mA, λ _D : 470nm typ.	750

Revision History

Description:	Revision #	Revision Date
New Release of QBDS39ZXX	V1.0	06/24/2011
Update binning and packing specs	V1.1	03/06/2012
Add more color options / Update dimension drawing	V2.0	10/30/2015

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.