Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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QT-Brightek SMD Display Series

0.40” Three Digit Display

Part No.: QBTS40ZXX

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

Table of Contents:

Introduction

Feature:

- 0.40” three digit seven segments display
- Low power consumption
- Packed in reel
- White segment and grey surface
- Z = 0 (common anode) or 1 (common cathode)
- XX = color code

Description:

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

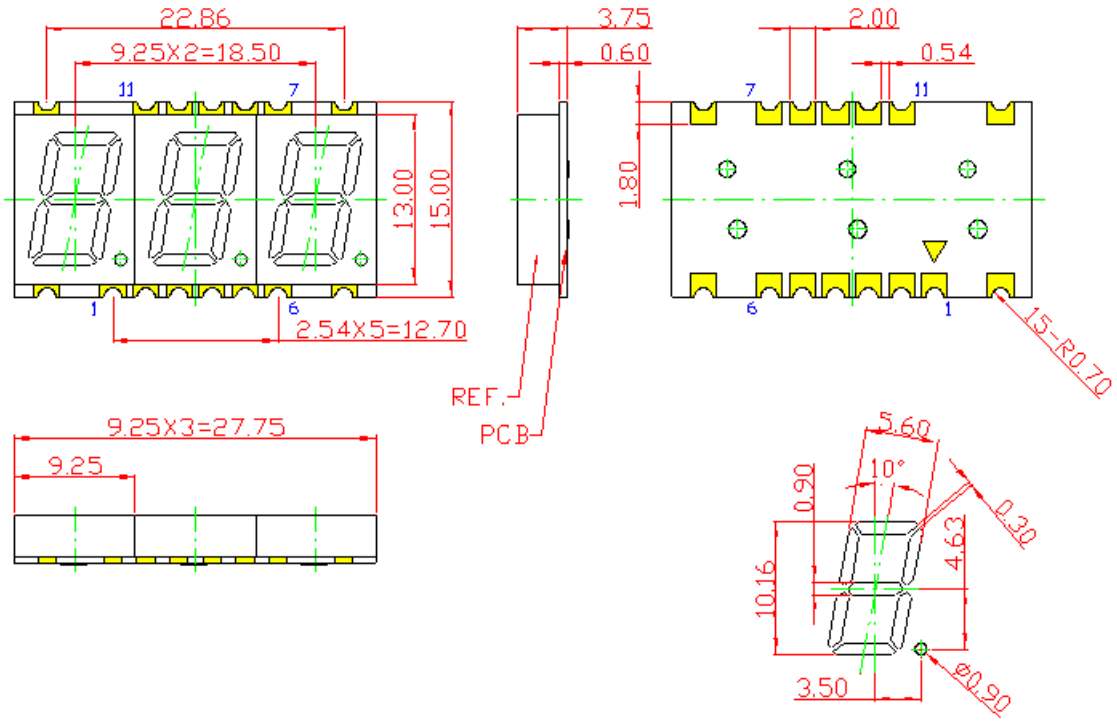
Application:

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

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

Dimension:



Units: mm / tolerance = +/-0.25mm

Electrical / Optical Characteristic: (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.
QBTS401R	QBTS400R	AlInGaP	Red	20	2.0	2.6	619	625	629	40
QBTS401S	QBTS400S	AlInGaP	Deep Red	20	2.0	2.6	636	640	645	8
QBTS401Y	QBTS400Y	AlInGaP	Yellow	20	2.0	2.6	585	590	595	20
QBTS401O	QBTS400O	AlInGaP	Orange	20	2.0	2.6	604	610	614	20
QBTS401AG	QBTS400AG	AlInGaP	Yellow Green	20	2.1	2.6	566	570	576	9
QBTS401IG	QBTS400IG	InGaN	Green	20	2.8	3.8	515	520	530	200
QBTS401IB	QBTS400IB	InGaN	Blue	20	3.1	4.0	464	470	474	60

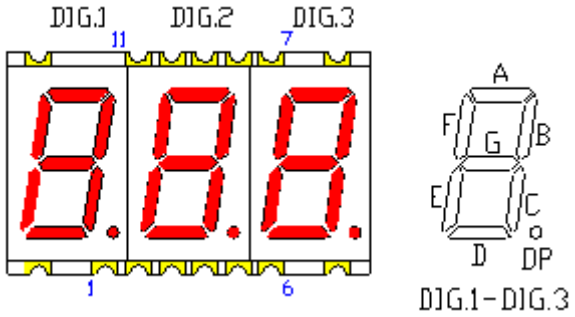
Absolute Maximum Rating:

Material	P_d (mW)	Derating linear from 25°C (mA/°C)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)	T_{SOL} (°C)**
AlInGaP	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

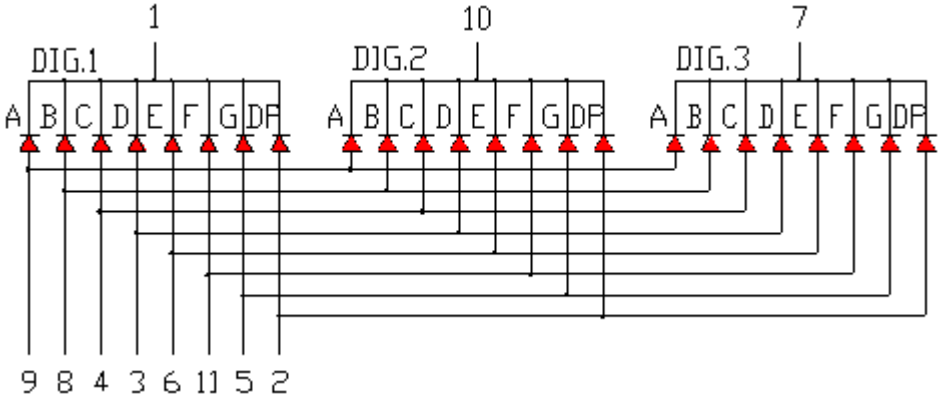
*Duty 1/10 @ 1KHz

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

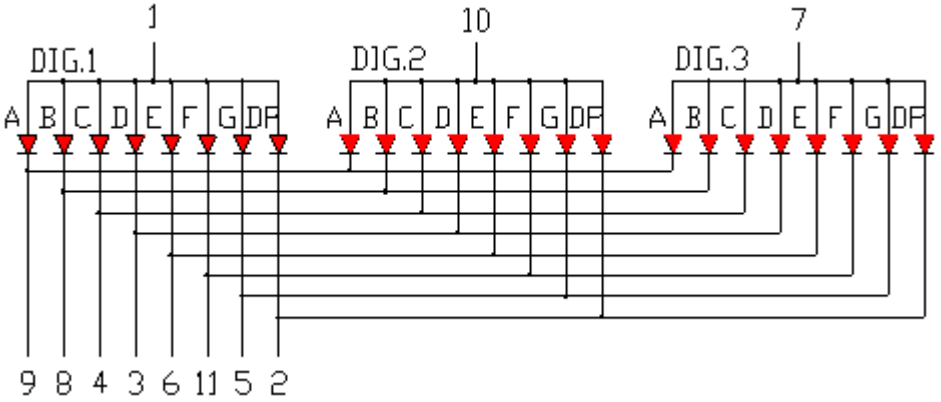
Pin Configuration:



CC



CA



Characteristic Curves

AlInGaP

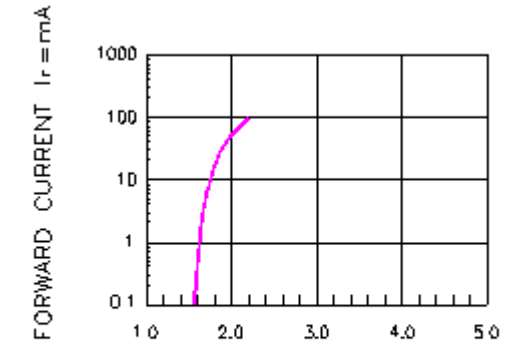
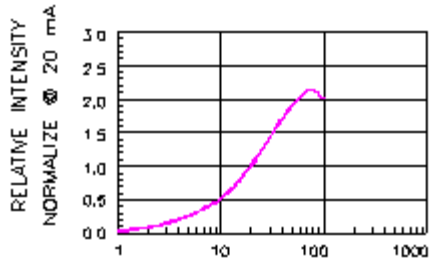


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE INTENSITY VS. FORWARD CURRENT

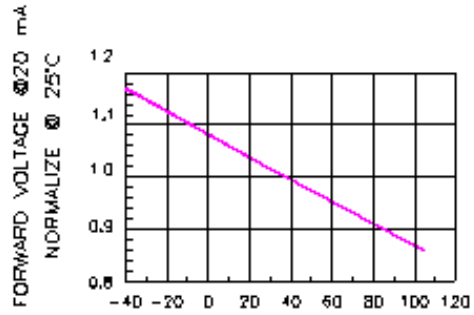


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

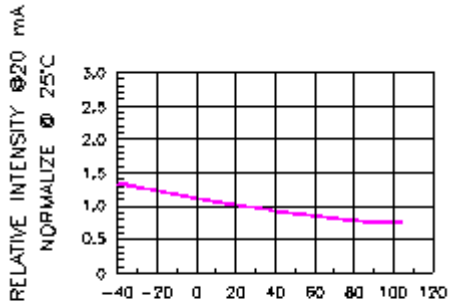
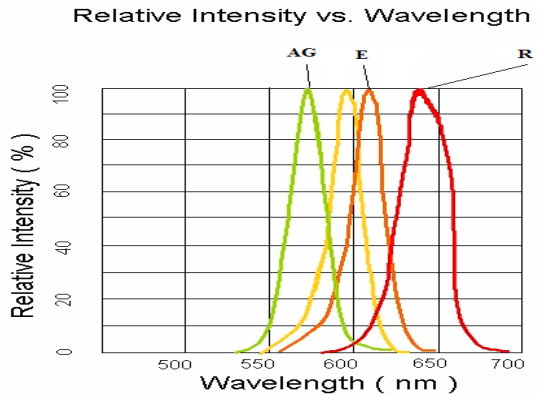


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE



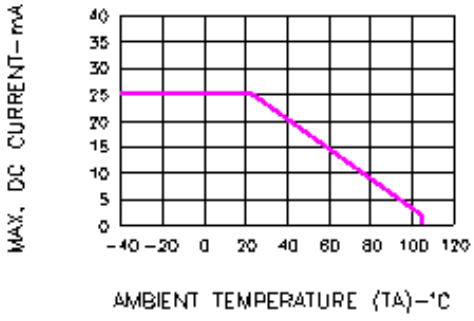


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

InGaN

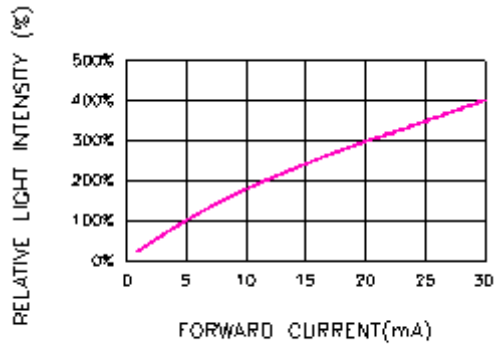


Fig.1 RELATIVE LIGHT INTENSITY VS. FORWARD CURRENT

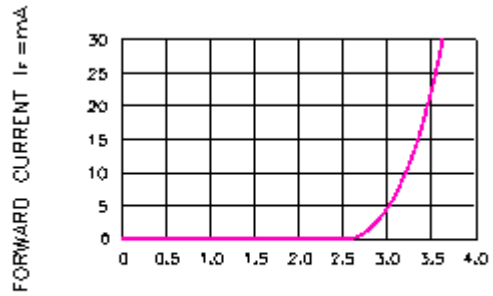


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

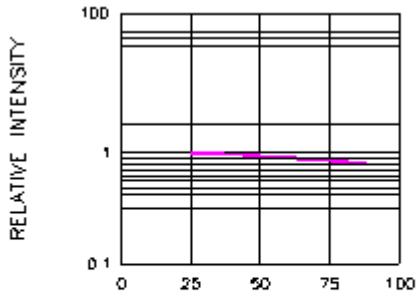


Fig.3 RELATIVE INTENSITY VS.LEAD TEMPERATURE (PULSED 20 mA; 300us PULSE,10ms PERIOD)

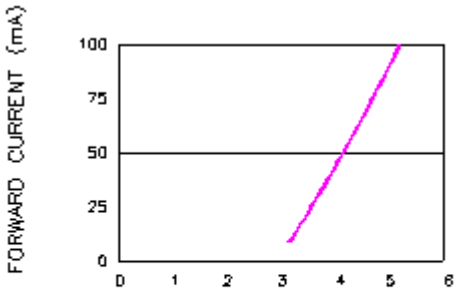
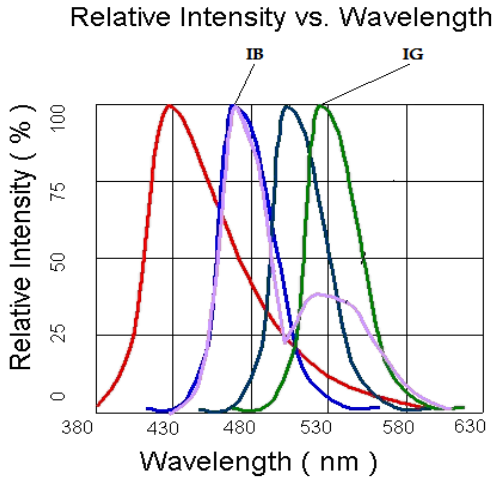


Fig.4 PEAK FORWARD VOLTAGE VS.FORWARD(100us TEST PULSE, 1% DUTY CYCLE)



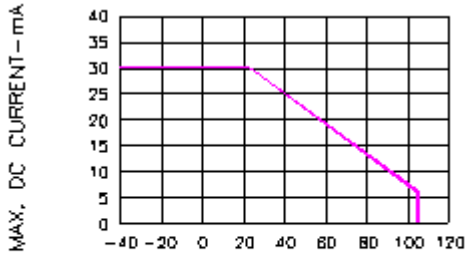
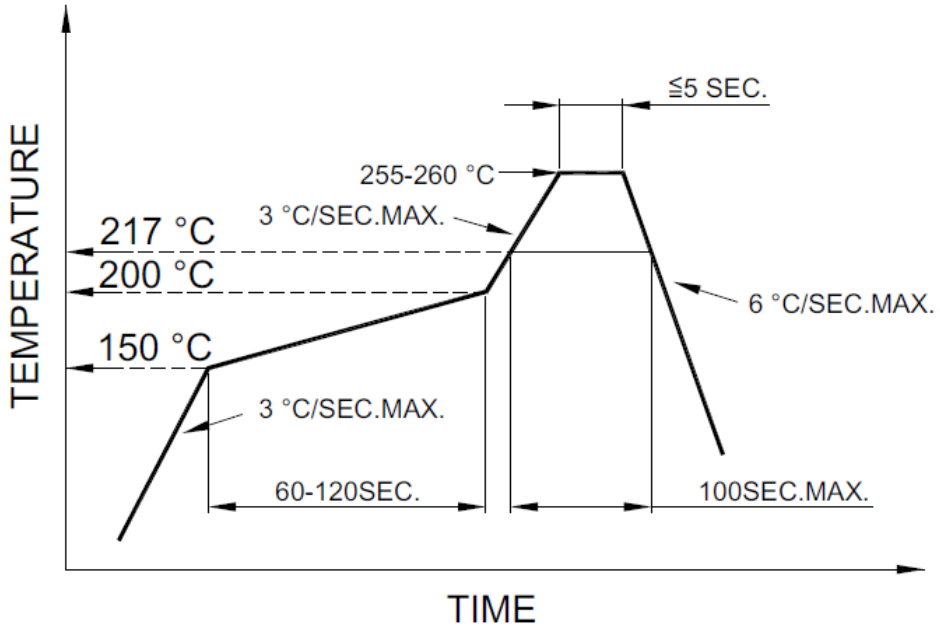


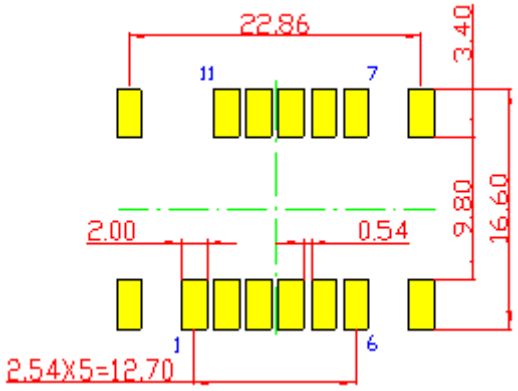
Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

Solder Profile & Footprint

Recommended Lead-free Solder Profile



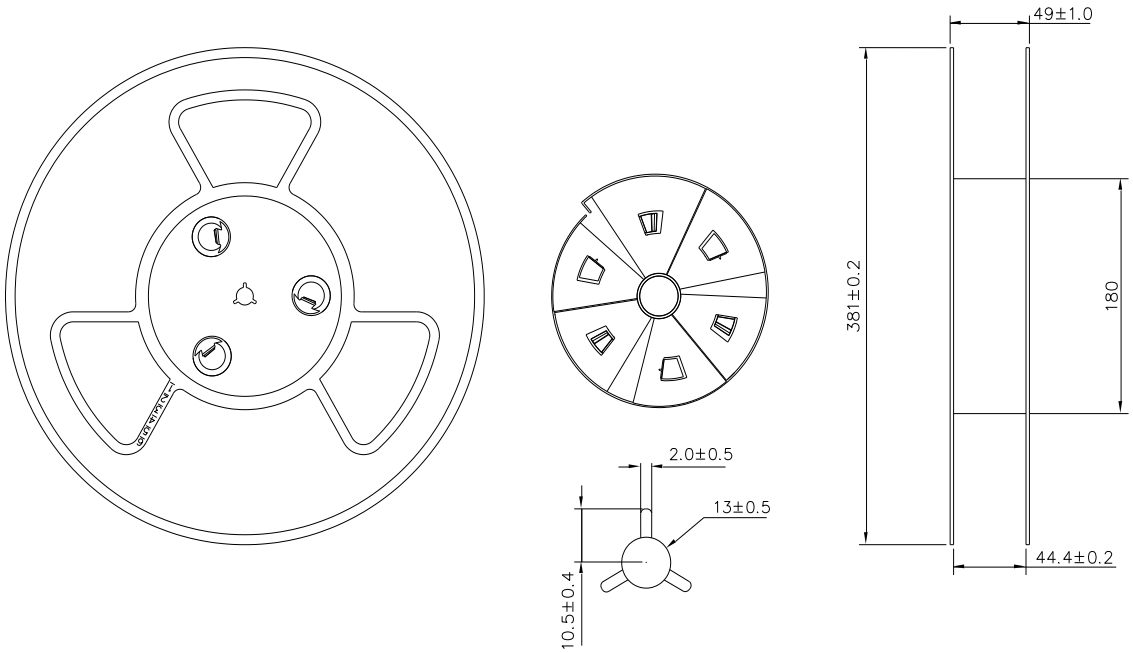
Recommended Pad Layout



Units: mm Tolerance: ±0.25mm

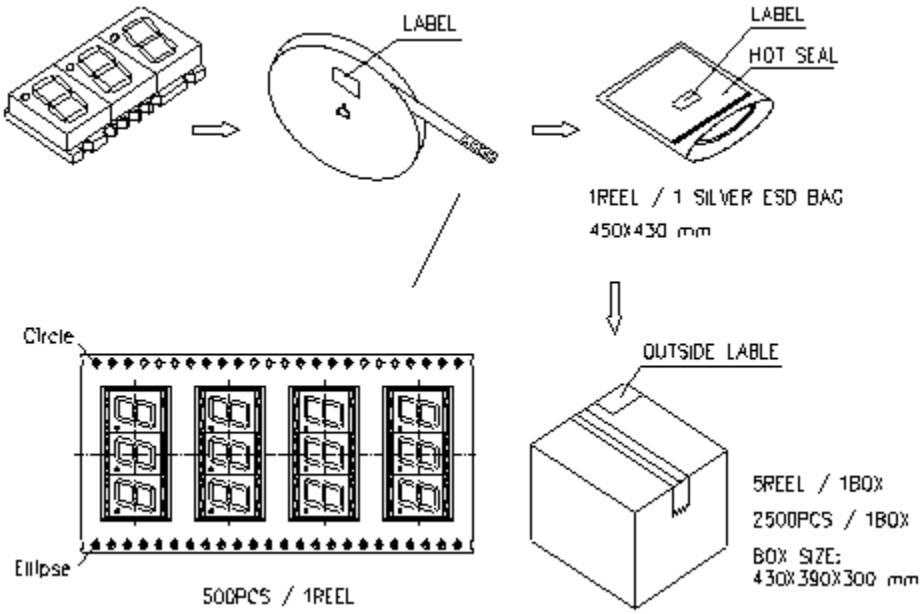
Packing

Reel Dimensions:



Unit: mm

Packing Specifications:



Ordering Information:

Product		Orderable Part #		Spec Range	Quantity per Reel
CC	CA	CC	CA		
QBTS401R	QBTS400R	QBTS401R	QBTS400R	Iv=40mcd typ. @ I_F=20mA / λ_D:625nm typ.	500
QBTS401S	QBTS400S	QBTS401S	QBTS400S	Iv=8mcd typ. @ I_F=20mA / λ_D:640nm typ.	500
QBTS401Y	QBTS400Y	QBTS401Y	QBTS400Y	Iv=20mcd typ. @ I_F=20mA / λ_D:590nm typ.	500
QBTS401O	QBTS400O	QBTS401O	QBTS400O	Iv=20mcd typ. @ I_F=20mA / λ_D:610nm typ.	500
QBTS401AG	QBTS400AG	QBTS401AG	QBTS400AG	Iv=9mcd typ. @ I_F=20mA / λ_D:570nm typ.	500
QBTS401IG	QBTS400IG	QBTS401IG	QBTS400IG	Iv=200mcd typ. @ I_F=20mA / λ_D:520nm typ.	500
QBTS401IB	QBTS400IB	QBTS401IB	QBTS400IB	Iv=60mcd typ. @ I_F=20mA / λ_D:470nm typ.	500

Revision History

Description:	Revision #	Revision Date
New Release of QBTS40ZXX	V1.0	03/25/2014
Update spec and dimension drawing / Add more color options	V1.1	11/02/2015

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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.