

QT-Brighttek SMD Display Series

0.56" Three Digit SMD Display

Part No.: QBTS56ZXX

XX= Color Code
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	9
Ordering Information	10
Revision History	11
Disclaimer	11

Product: QBTS56ZXX	Date: November 19, 2015	Page 2 of 11
	Version# 1.3	

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.
QBTS561R	QBTS560R	AllnGaP	Red	20	2.0	2.6	-	624	-	40
QBTS561S	QBTS560S	AllnGaP	Deep Red	20	2.0	2.6	-	640	-	12
QBTS561Y	QBTS560Y	AllnGaP	Yellow	20	2.0	2.6	-	590	-	40
QBTS561O	QBTS560O	AllnGaP	Orange	20	2.0	2.6	-	605	-	40
QBTS561AG	QBTS560AG	AllnGaP	Yellow Green	20	2.0	2.6	-	571	-	15
QBTS561IG	QBTS560IG	InGaN	True Green	20	3.2	4.0	-	525	-	200
QBTS561IB	QBTS560IB	InGaN	Blue	20	3.2	4.0	-	470	-	30

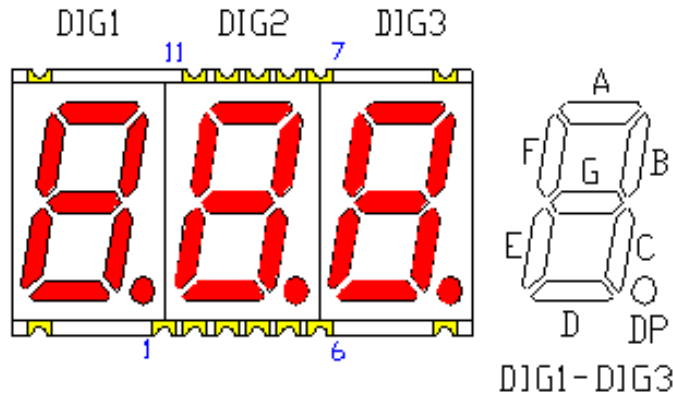
Absolute Maximum Rating

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)**
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

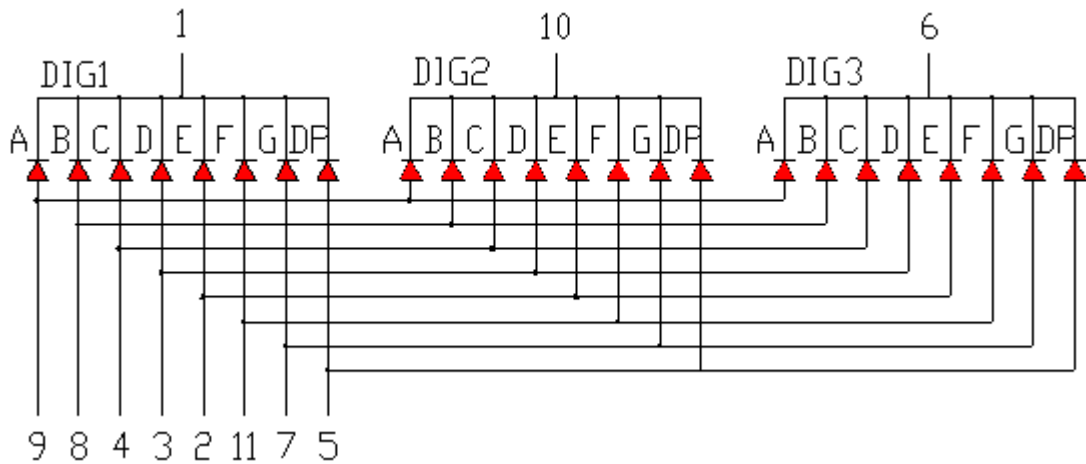
*Duty 1/10 @ 1KHz

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

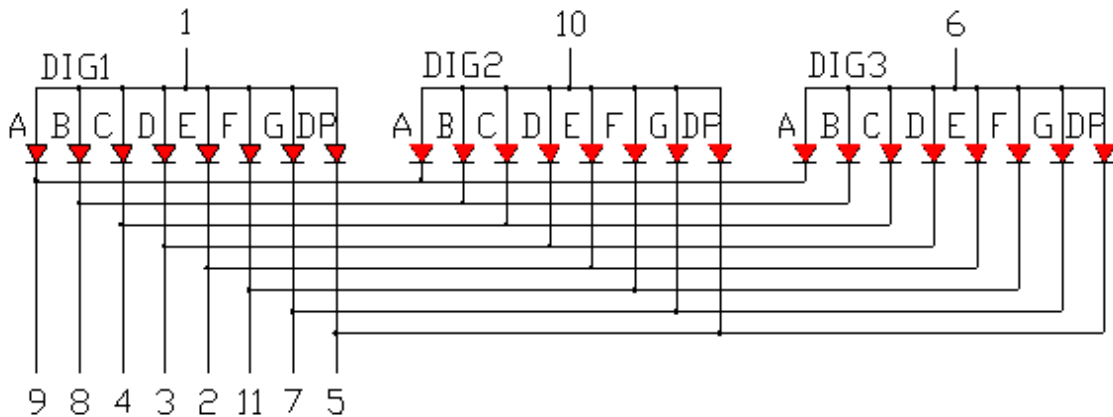
Pin Configuration



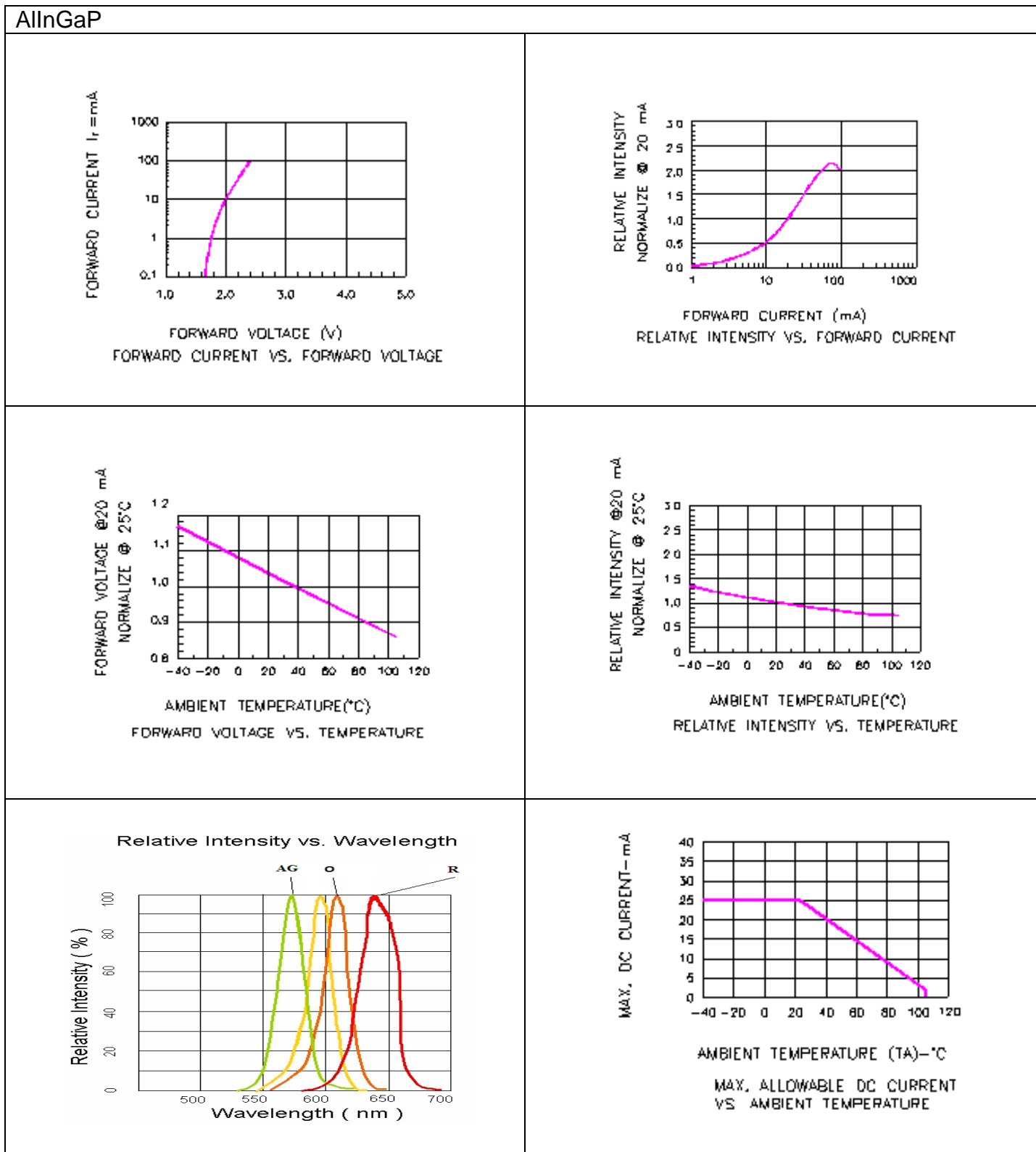
CC



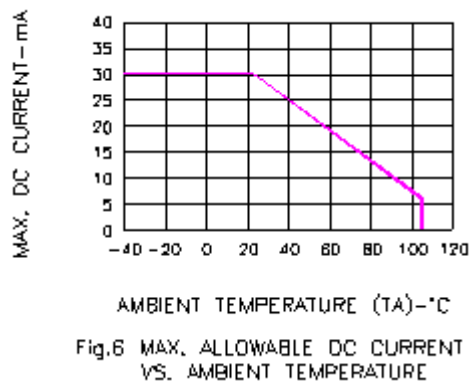
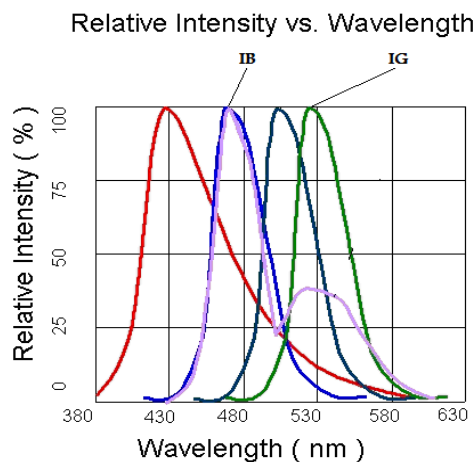
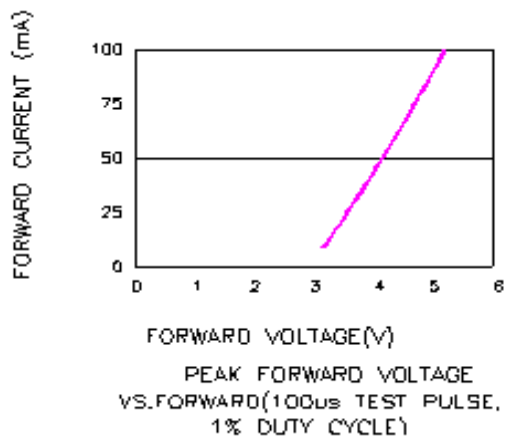
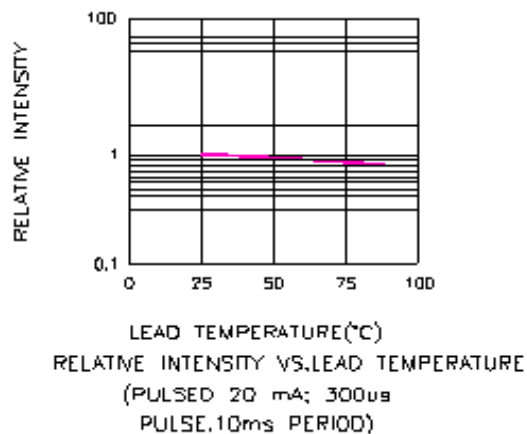
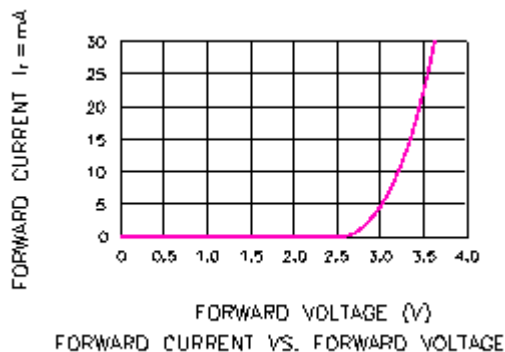
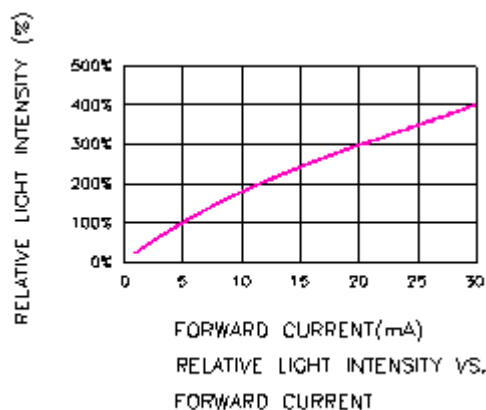
CA



Characteristic Curves

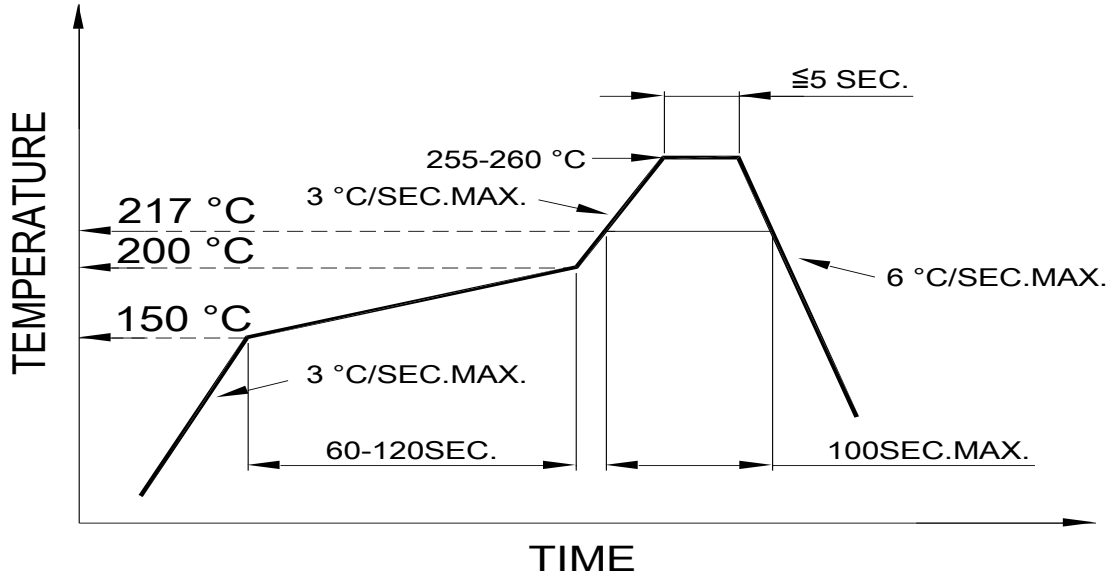


InGaN

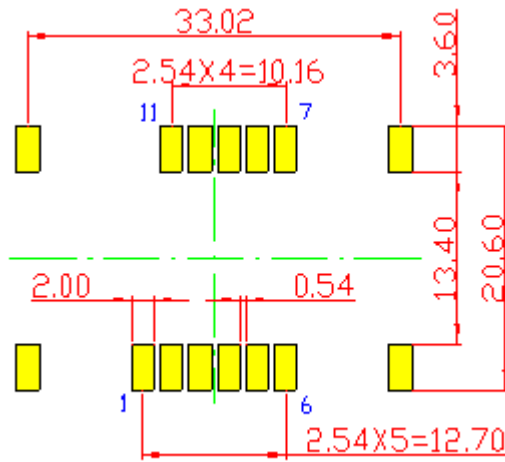


Solder Profile & Footprint

Recommended Lead-free Solder Profile
Pb free reflow soldering Profile



Recommended Pad Layout

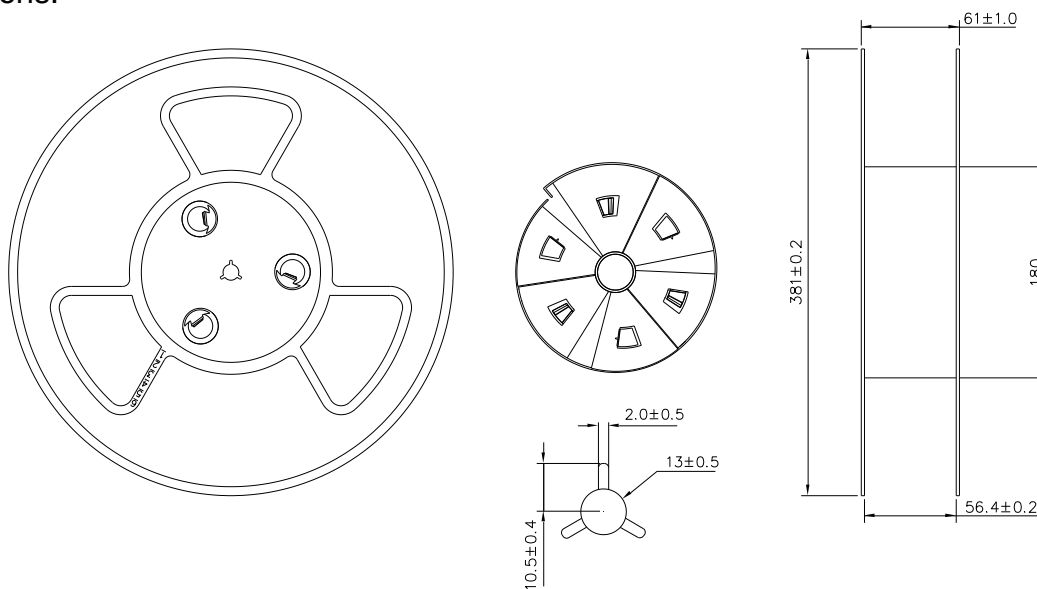


Units: mm

Tolerance: ± 0.2 mm

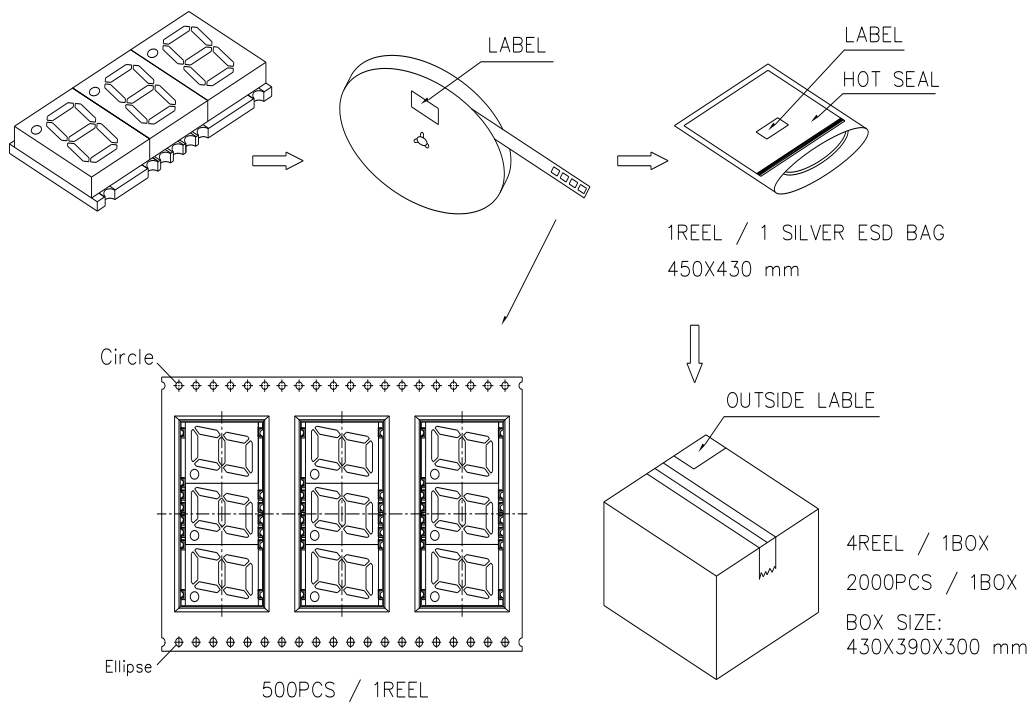
Packing

Reel Dimensions:



Unit: mm

Packing Specifications:



Product: QBTS56ZXX	Date: November 19, 2015	Page 9 of 11
	Version# 1.3	

Ordering Information

Product		Orderable Part #		Spec Range	Quantity per Reel
CC	CA	CC	CA		
QBTS561R	QBTS560R	QBTS561R	QBTS560R	Iv=40mcd typ. @ I _F =20mA / λ _D :624nm typ.	500
QBTS561S	QBTS560S	QBTS561S	QBTS560S	Iv=12mcd typ. @ I _F =20mA / λ _D :640nm typ.	500
QBTS561Y	QBTS560Y	QBTS561Y	QBTS560Y	Iv=40mcd typ. @ I _F =20mA / λ _D :590nm typ.	500
QBTS561O	QBTS560O	QBTS561O	QBTS560O	Iv=40mcd typ. @ I _F =20mA / λ _D :605nm typ.	500
QBTS561AG	QBTS560AG	QBTS561AG	QBTS560AG	Iv=15mcd typ. @ I _F =20mA / λ _D :571nm typ.	500
QBTS561IG	QBTS560IG	QBTS561IG	QBTS560IG	Iv=200mcd typ. @ I _F =20mA / λ _D :525nm typ.	500
QBTS561IB	QBTS560IB	QBTS561IB	QBTS560IB	Iv=30mcd typ. @ I _F =20mA / λ _D :470nm typ.	500

Revision History

Description:	Revision #	Revision Date
New Release of QBTS56ZXX	V1.0	06/24/2011
Amend format and optical spec/ Add packing spec	V1.1	03/24/2014
Add more color options / Update packing spec	V1.2	03/24/2015
Update dimension drawing and brightness	V1.3	11/19/2015

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: QBTS56ZXX	Date: November 19, 2015	Page 11 of 11
	Version# 1.3	