

QT-Brightek SMD Super Thin Display Series

0.56" Single Digit Display

Part No.: QBSST56ZXX

XX= Color

Z= 1: Common Cathode

Z = 0: Common Anode

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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) @I _F =5mA
CC	CA				Typ.	Max.	Min.	Typ.	Max.	Typ.
QBSST561R	QBSST560R	AlInGaP	Red	20	2.0	2.8	--	625	--	5
QBSST561S	QBSST560S	AlInGaP	Deep Red	20	2.0	2.8	--	645	--	4
QBSST561Y	QBSST560Y	AlInGaP	Yellow	20	2.0	2.8	--	590	--	12
QBSST561O	QBSST560O	AlInGaP	Orange	20	2.0	2.8	--	605	--	14
QBSST561AG	QBSST560AG	AlInGaP	Yellow Green	20	2.1	2.8	--	570	--	2
QBSST561IG	QBSST560IG	InGaN	True Green	20	3.2	4.0	--	525	--	50
QBSST561IB	QBSST560IB	InGaN	Blue	20	3.2	4.0	--	470	--	8
							Chromaticity Coordinate			
QBSST561IW	QBSST560IW	InGaN	Blue	20	3.2	4.0	--	X:0.27 Y:0.25	--	40

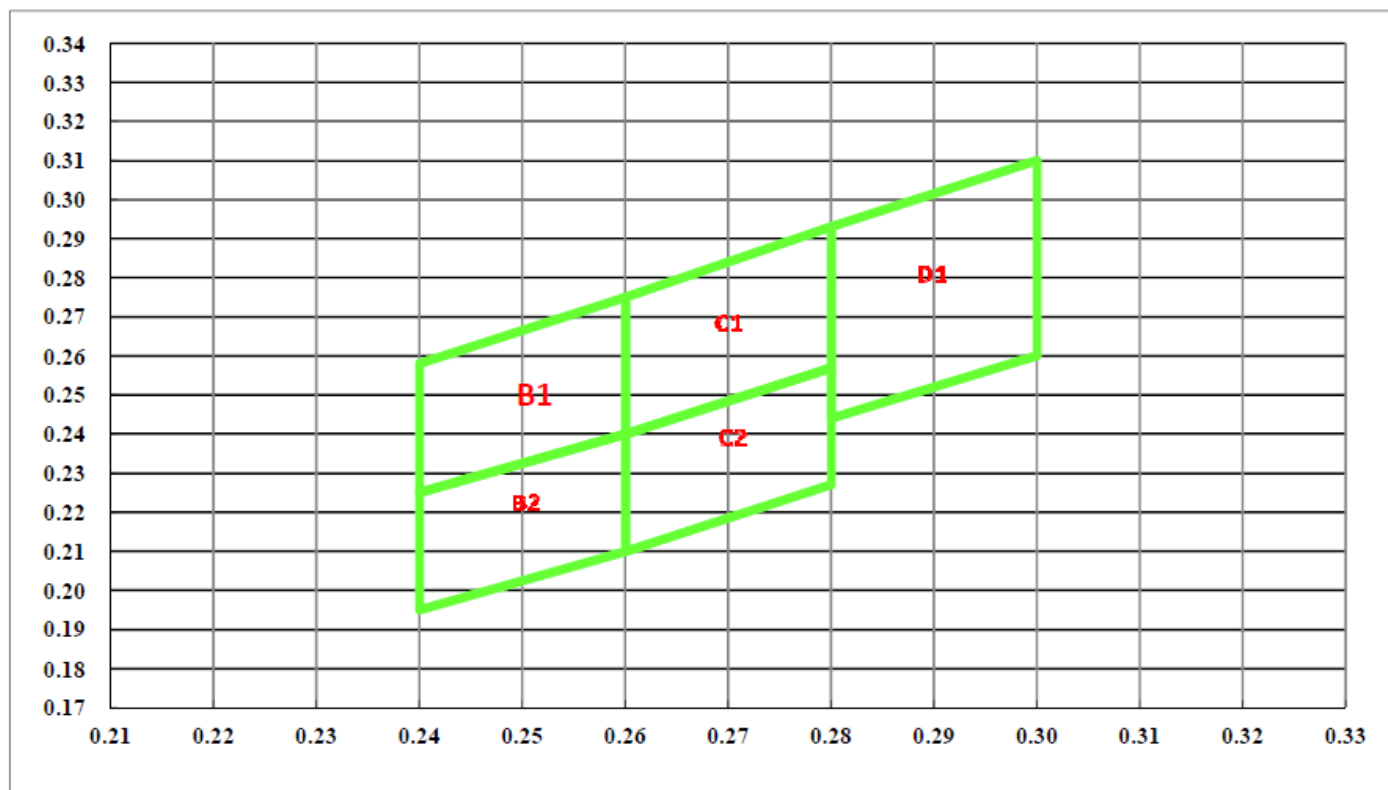
Absolute Maximum Rating

Material	P _d (mW)	Derating linear from 25°C per dice (mW/°C)	I _F (mA)	I _{PF} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
AlInGaP	70	0.33	25	90	5	-40 to +105	-40 to +105	260
InGaN	114	0.4	30	100	5	-40 to +105	-40 to +105	260

*Duty 1/10 @ 1KHz

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

Correlated Color Temperature Chart



B1				
X	0.240	0.240	0.260	0.260
Y	0.225	0.258	0.275	0.240

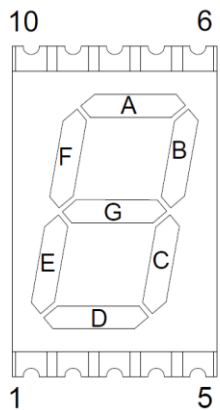
B2				
X	0.240	0.240	0.260	0.260
Y	0.195	0.225	0.240	0.210

C1				
X	0.260	0.260	0.280	0.280
Y	0.240	0.275	0.293	0.257

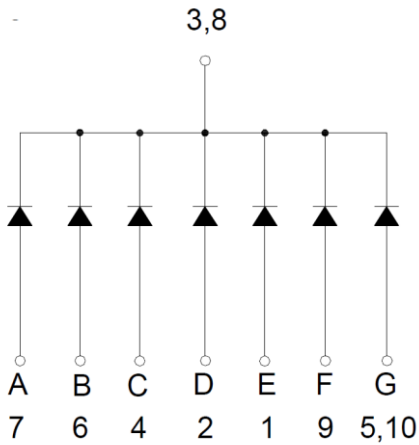
C2				
X	0.260	0.260	0.280	0.280
Y	0.210	0.240	0.257	0.227

D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

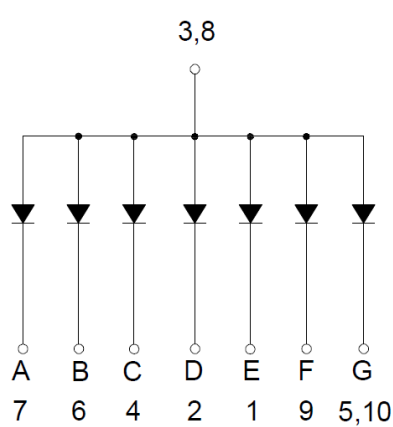
Pin Configuration



CC



CA



Characteristic Curves

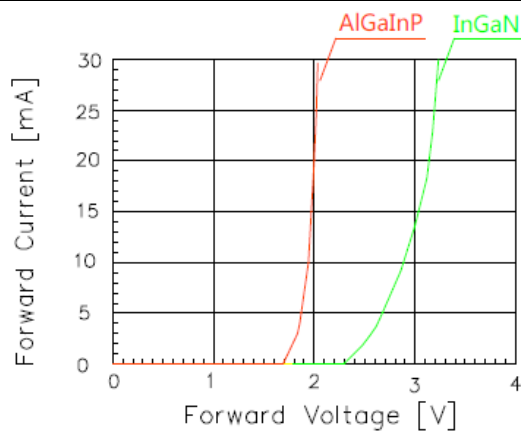


Fig 1. Forward Current vs. Forward Voltage

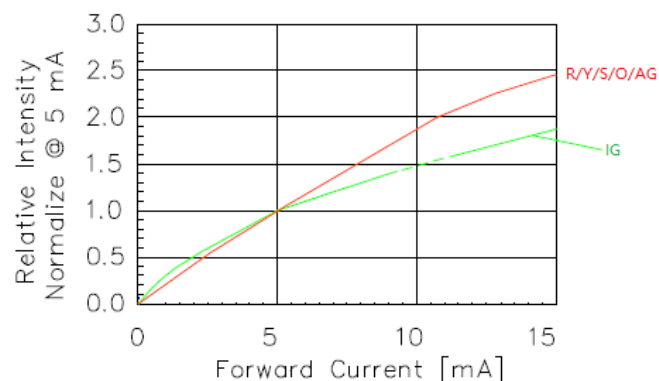


Fig 2. Relative Intensity vs. Forward Current

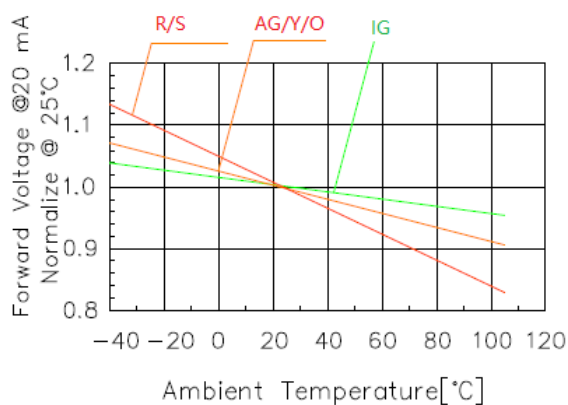


Fig 3. Forward Voltage vs. Temperature

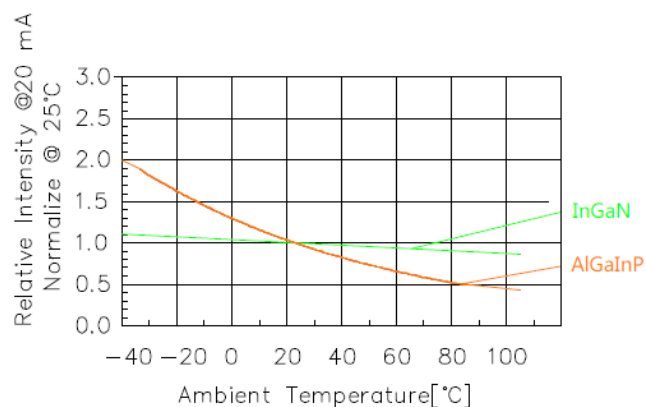


Fig 4. Relative Intensity vs. Temperature

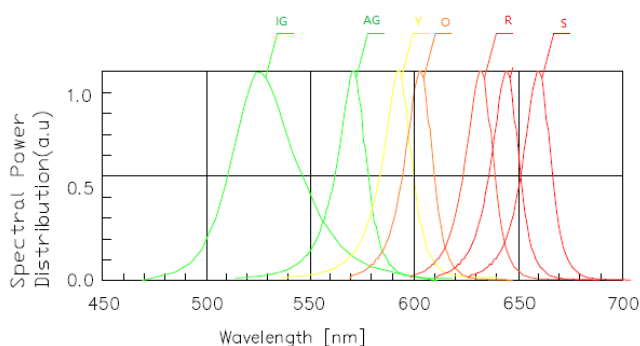


Fig 5. Spectral Power Distribution vs. Wavelength

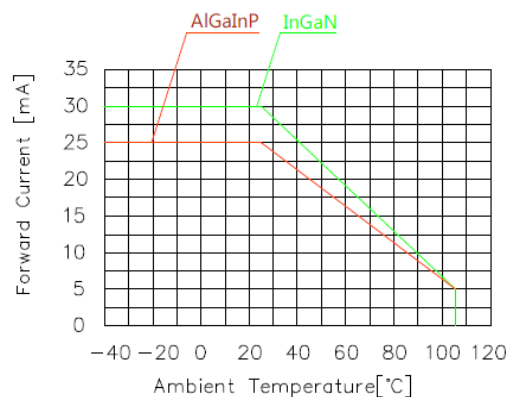


Fig 6. Forward current vs. Temperature

InGaN Blue

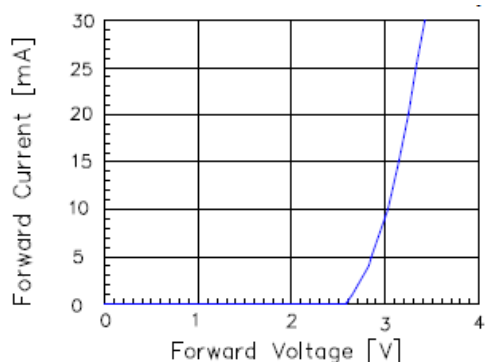


Fig 1. Forward Current vs. Forward Voltage

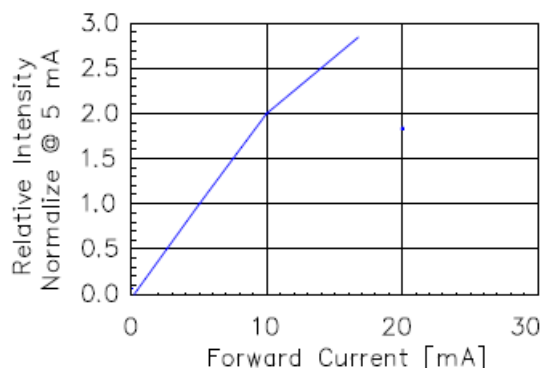


Fig 2. Relative Intensity vs. Forward Current

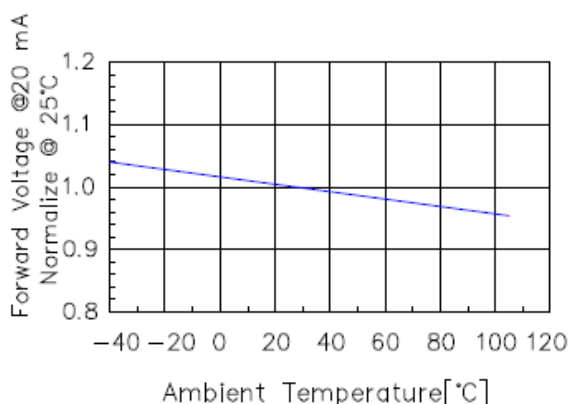


Fig 3. Forward Voltage vs. Temperature

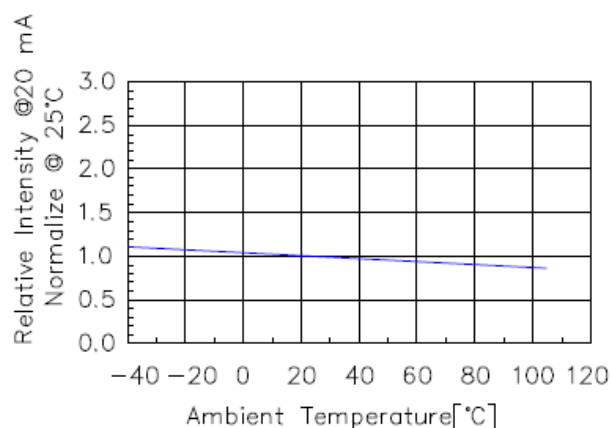


Fig 4. Relative Intensity vs. Temperature

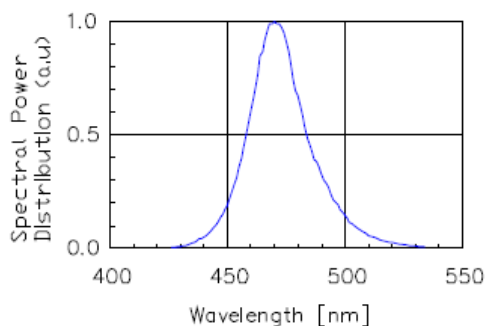


Fig 5. Spectral Power Distribution vs. Wavelength

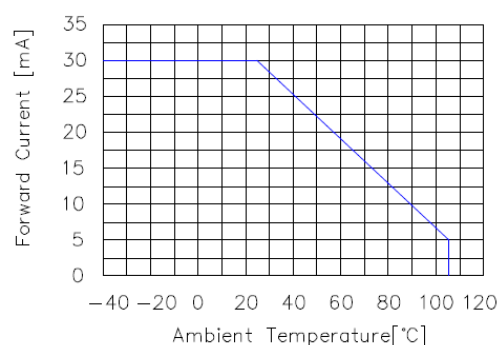


Fig 6. Forward current vs. Temperature

InGaN White

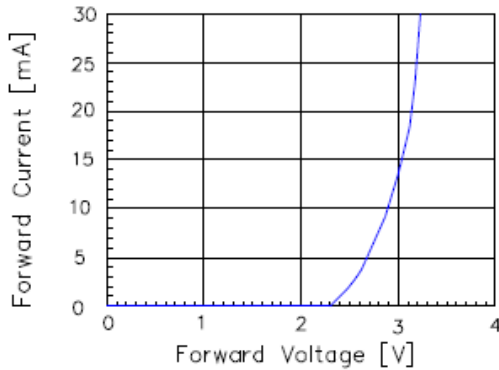


Fig 1. Forward Current vs. Forward Voltage

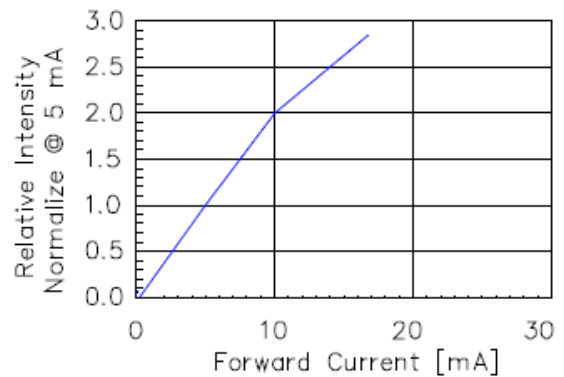


Fig 2. Relative Intensity vs. Forward Current

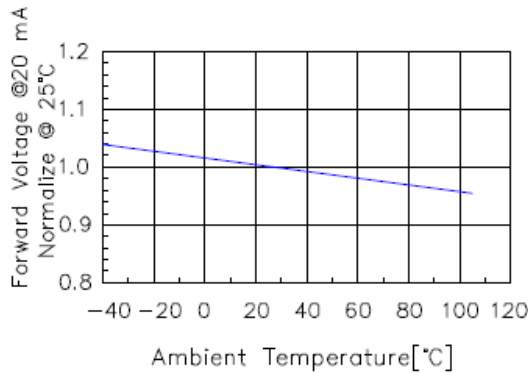


Fig 3. Forward Voltage vs. Temperature

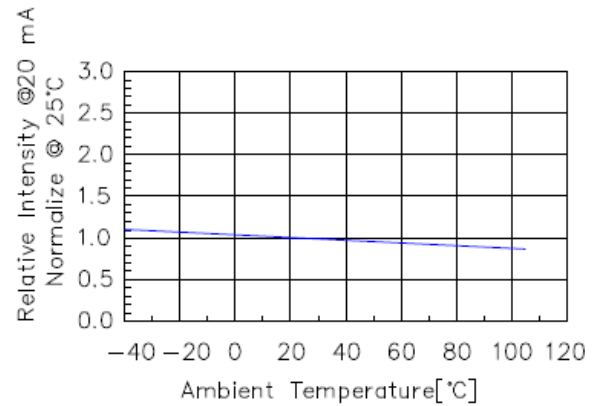


Fig 4. Relative Intensity vs. Temperature

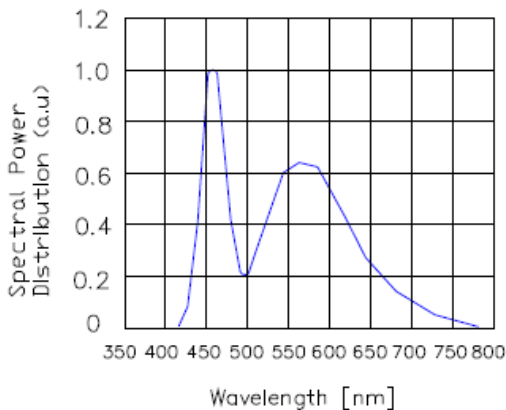


Fig 5. Spectral Power Distribution vs. Wavelength

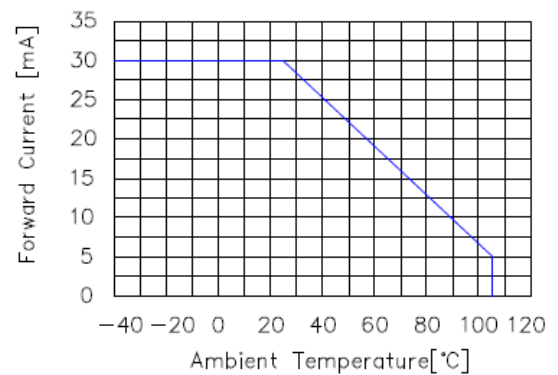
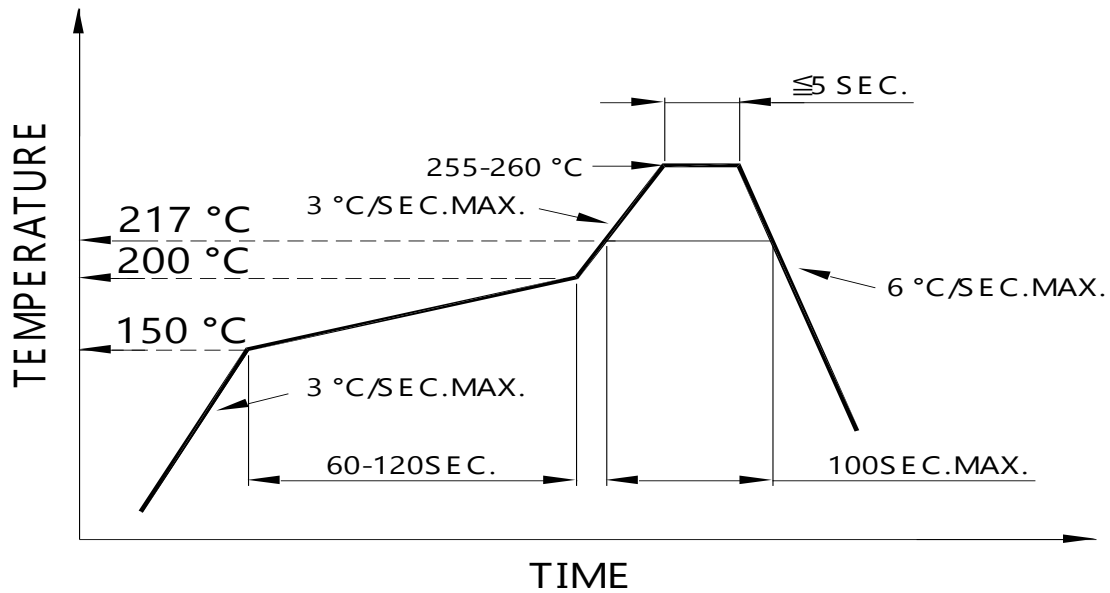


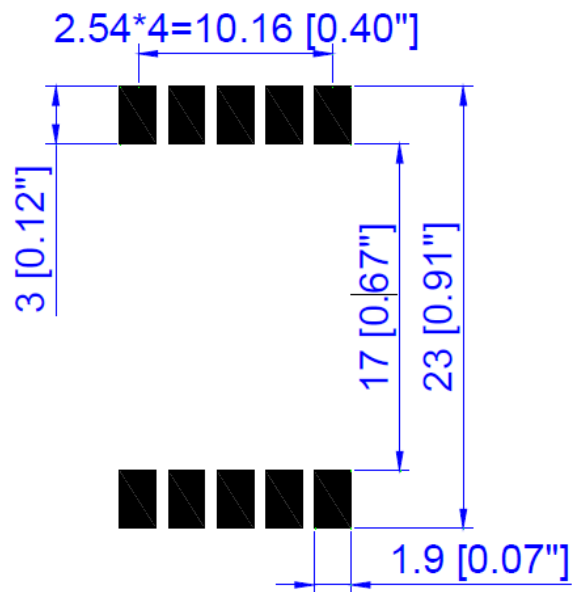
Fig 6. Forward current vs. Temperature

Solder Profile & Footprint

Pb free reflow soldering Profile



Recommended Pad Layout

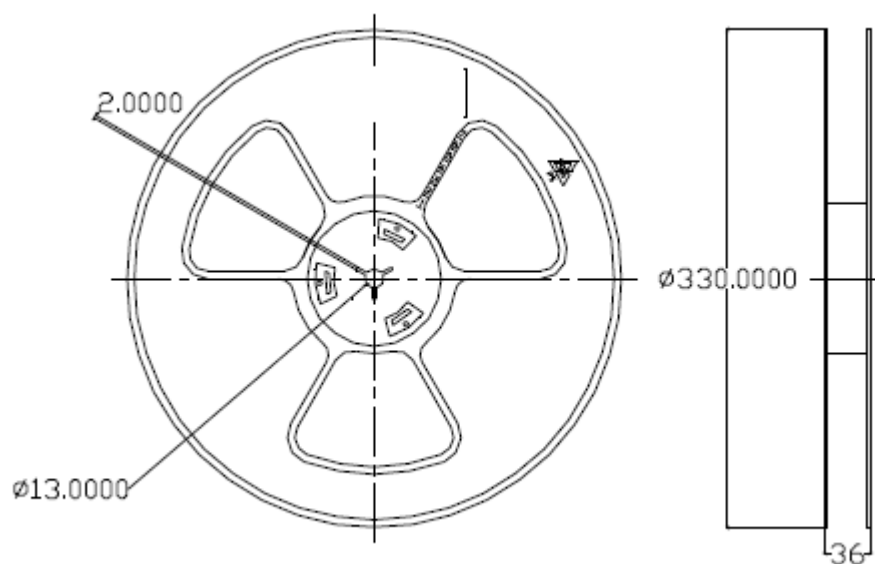


Units: mm

Tolerance: ±0.25mm

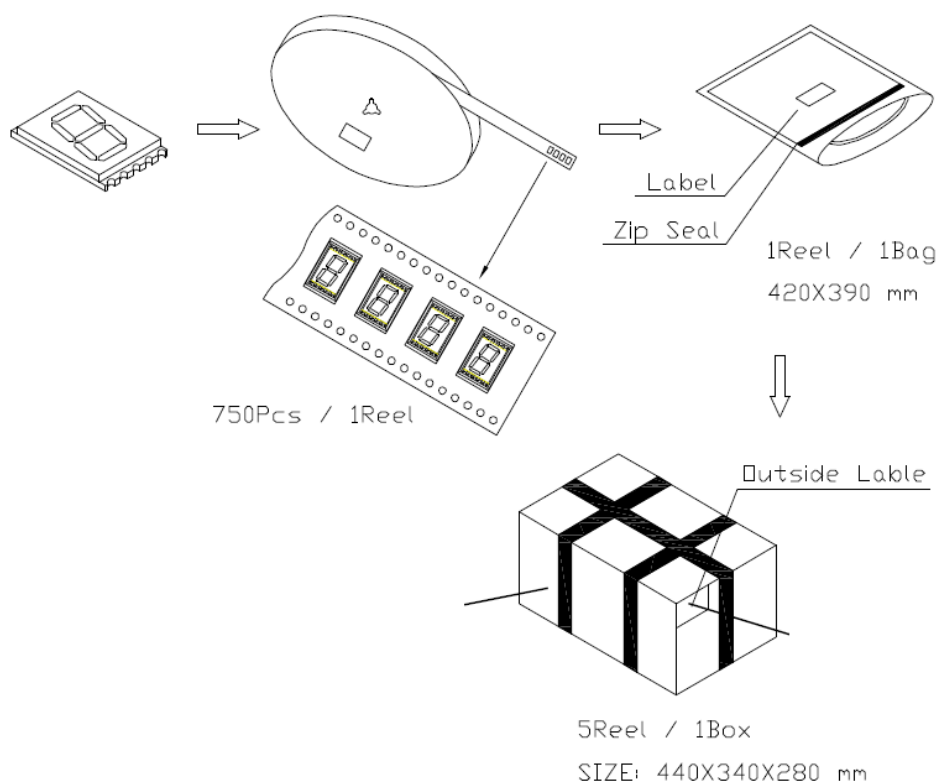
Packing & Labeling

Reel Dimensions:



Unit: mm

Packing Method:



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	Version# 1.0	

Ordering Information

Product		Orderable Part #		Spec Range	Quantity per Reel
CC	CA	CC	CA		
QBSST561R	QBSST560R	QBSST561R	QBSST560R	Iv=5mcd typ. @ I _F =5mA / λ _D :625nm typ.	750
QBSST561S	QBSST560S	QBSST561S	QBSST560S	Iv=4mcd typ. @ I _F =5mA / λ _D :645nm typ.	750
QBSST561Y	QBSST560Y	QBSST561Y	QBSST560Y	Iv=12mcd typ. @ I _F =5mA / λ _D :590nm typ.	750
QBSST561O	QBSST560O	QBSST561O	QBSST560O	Iv=14mcd typ. @ I _F =5mA / λ _D :605nm typ.	750
QBSST561AG	QBSST560AG	QBSST561AG	QBSST560AG	Iv=2mcd typ. @ I _F =5mA / λ _D :570nm typ.	750
QBSST561IG	QBSST560IG	QBSST561IG	QBSST560IG	Iv=50mcd typ. @ I _F =5mA / λ _D :525nm typ.	750
QBSST561IB	QBSST560IB	QBSST561IB	QBSST560IB	Iv=8mcd typ. @ I _F =5mA / λ _D :470nm typ.	750
QBSST561IW	QBSST560IW	QBSST561IW	QBSST560IW	Iv=40mcd typ. @ I _F =5mA / (X,Y)=(0.27, 0.25)	750

Revision History

Description:	Revision #	Revision Date
New Release of QBSST56ZXX	V1.0	01/16/2017

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.