

QT-Brightek SMD Super Thin Display Series

0.56" Single Digit Display

Part No.: QBSST56ZXX-R

XX= Color

Z= 1: Common Cathode

Z = 0: Common Anode

-R= Reverse Mount

Product: QBSST56ZXX-R	Date: January 16, 2017	Page 1 of 13
	Version# 1.0	

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Introduction

Feature:

- 0.56" Single digit super thin seven segments display
- Low power consumption
- Packed in reel
- White segment and grey surface
- XX = color code
- Z=1: Common Cathode or 0: Common Anode
- Reverse Mount

Application:

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

Certification & Compliance:

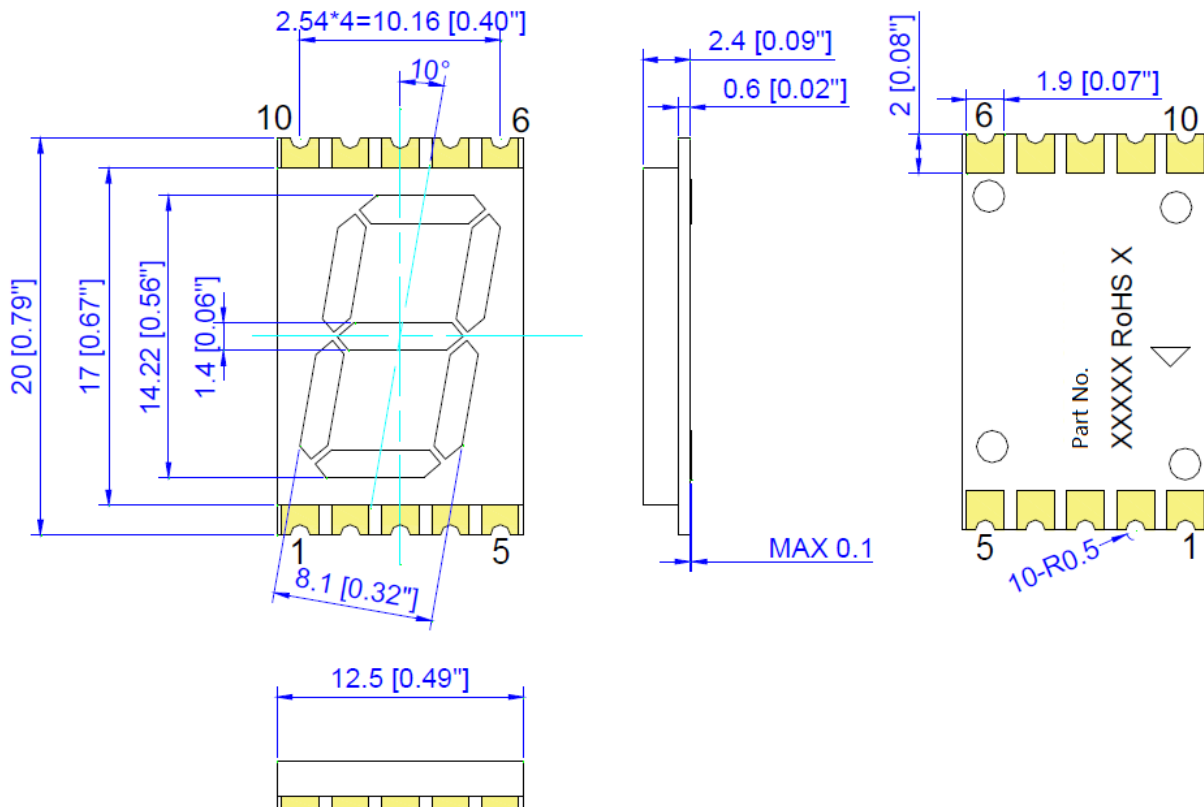
- TS16949
- ISO9001
- RoHS Compliant

Description:

These 0.56" Single digit super thin seven segments displays are made with white segment and grey surface. The viewing distance is up to seven meters.



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

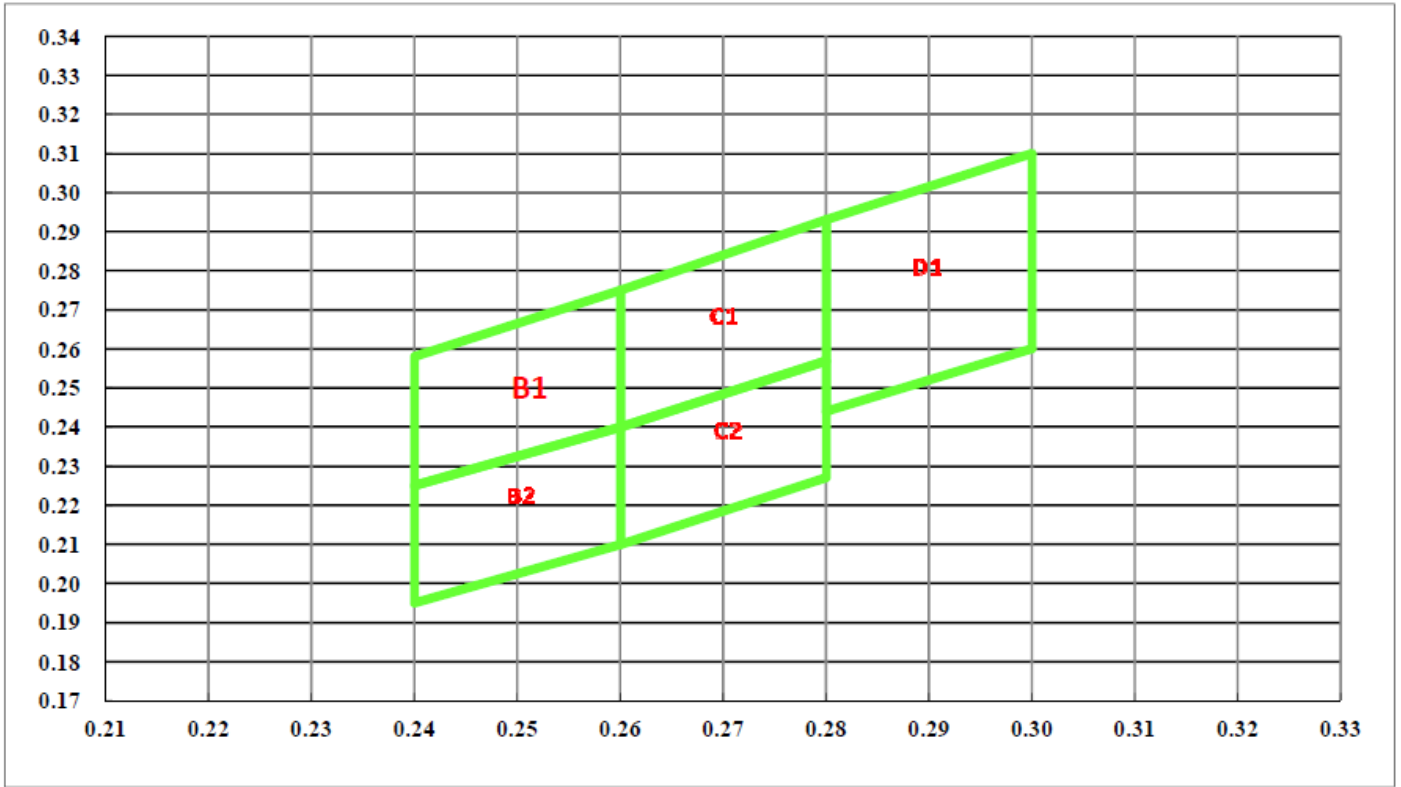
Absolute Maximum Rating

Material	P _d (mW)	Derating linear from 25°C per dice (mA/°C)	I _F (mA)	I _{PF} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
AllnGaP	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

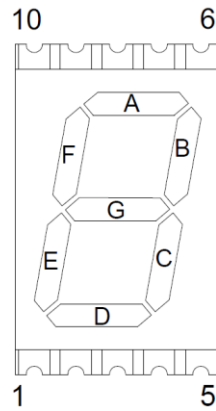
B2				
X	0.240	0.240	0.260	0.260
Y	0.195	0.225	0.240	0.210

C1				
X	0.260	0.260	0.280	0.280
Y	0.240	0.275	0.293	0.257

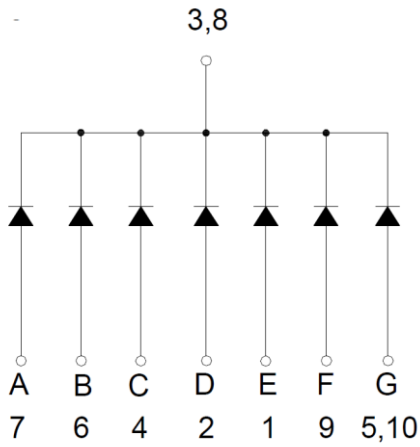
C2				
X	0.260	0.260	0.280	0.280
Y	0.210	0.240	0.257	0.227

D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

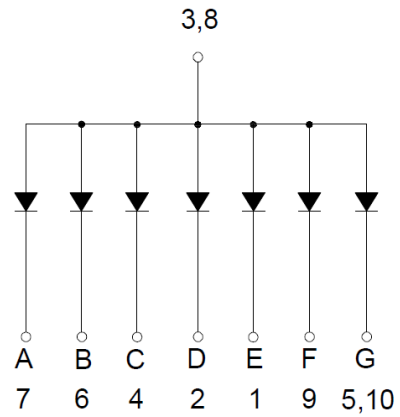
Pin Configuration



CC



CA



Characteristic Curves

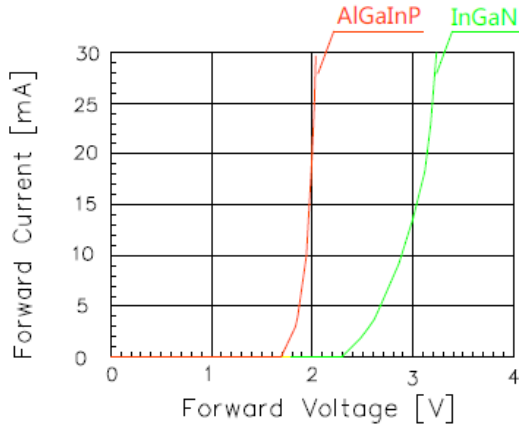


Fig 1. Forward Current vs. Forward Voltage

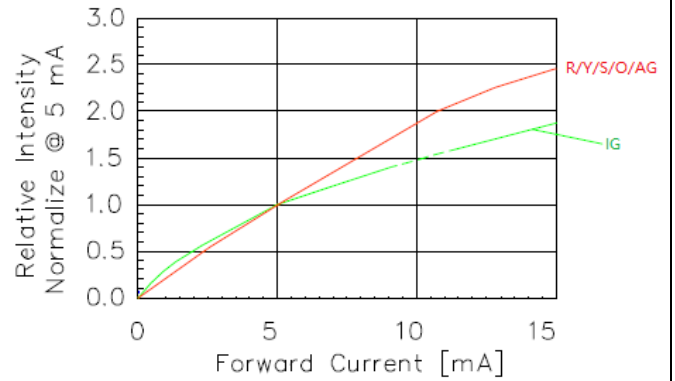


Fig 2. Relative Intensity vs. Forward Current

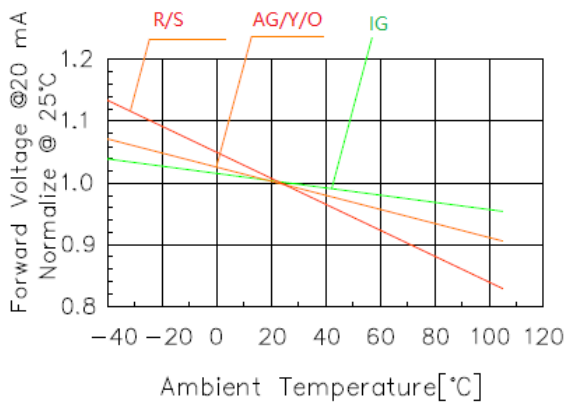


Fig 3. Forward Voltage vs. Temperature

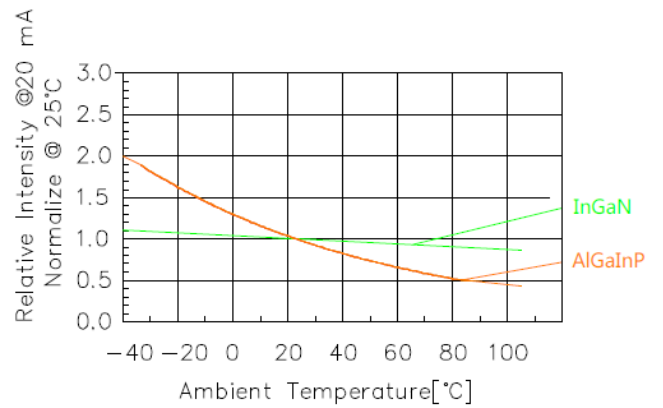


Fig 4. Relative Intensity vs. Temperature

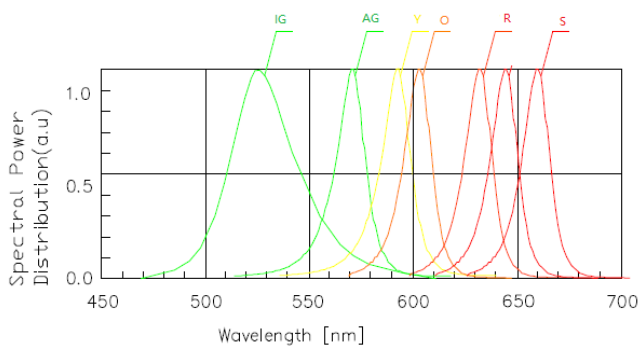


Fig 5. Spectral Power Distribution vs. Wavelength

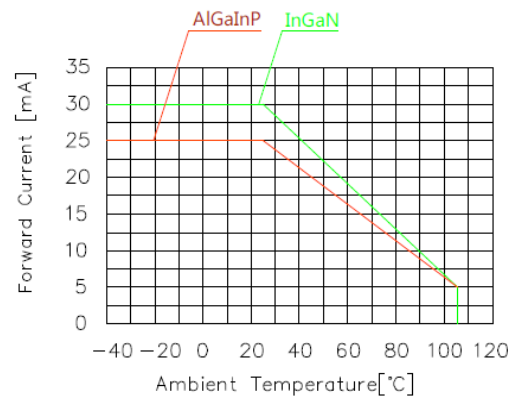


Fig 6. Forward current vs. Temperature

InGaN Blue

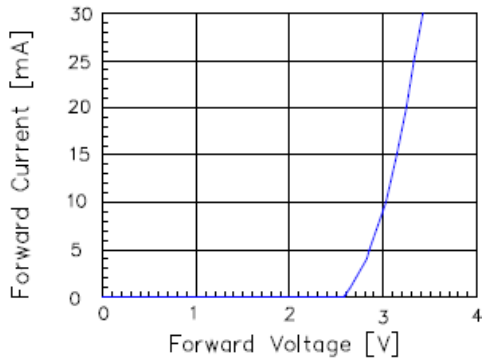


Fig 1. Forward Current vs. Forward Voltage

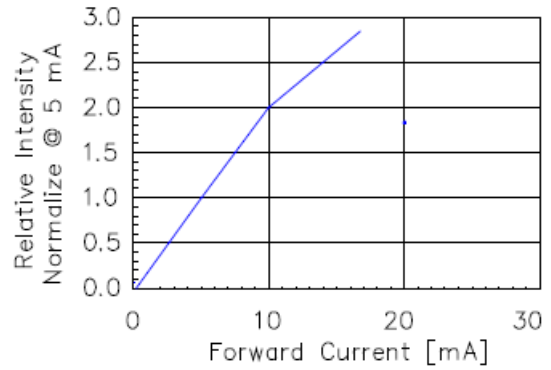


Fig 2. Relative Intensity vs. Forward Current

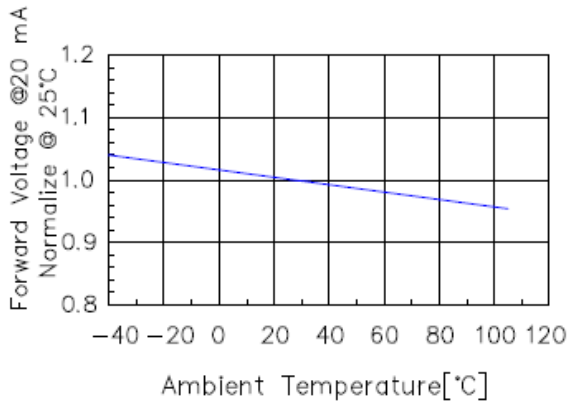


Fig 3. Forward Voltage vs. Temperature

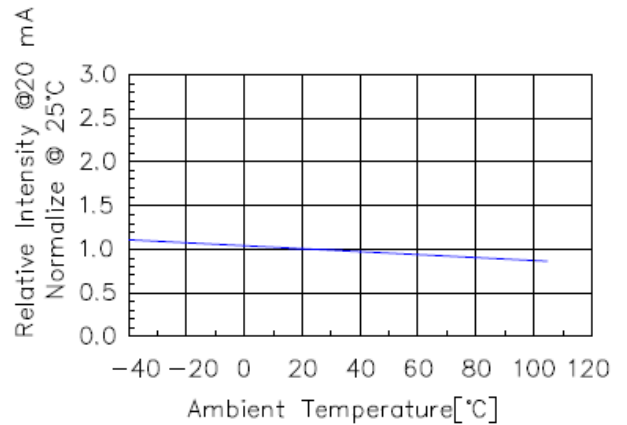


Fig 4. Relative Intensity vs. Temperature

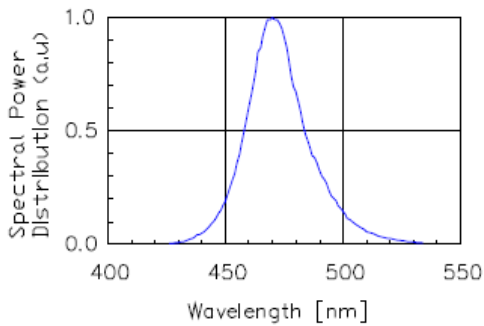


Fig 5. Spectral Power Distribution vs. Wavelength

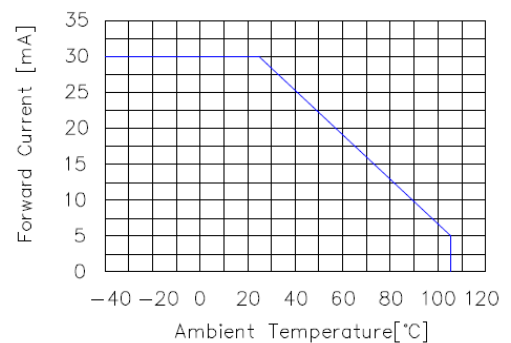


Fig 6. Forward current vs. Temperature

InGaN White

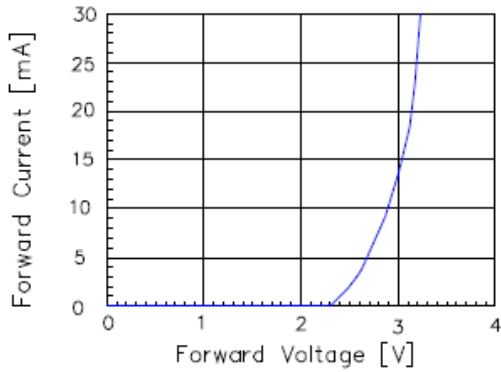


Fig 1. Forward Current vs. Forward Voltage

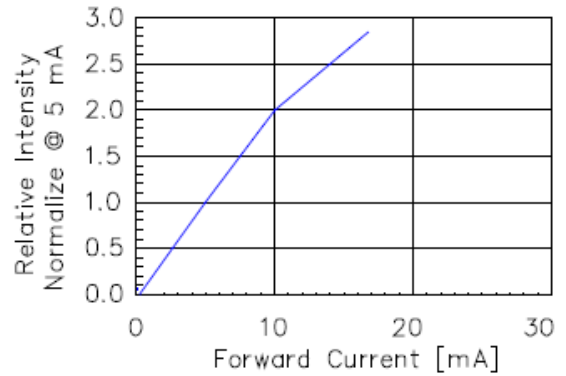


Fig 2. Relative Intensity vs. Forward Current

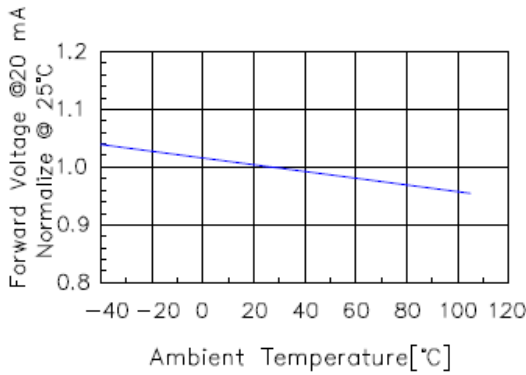


Fig 3. Forward Voltage vs. Temperature

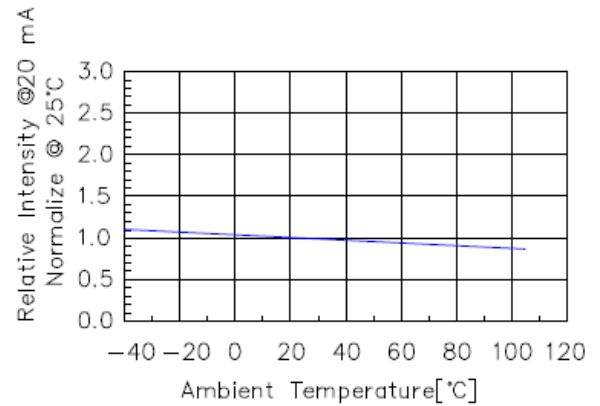


Fig 4. Relative Intensity vs. Temperature

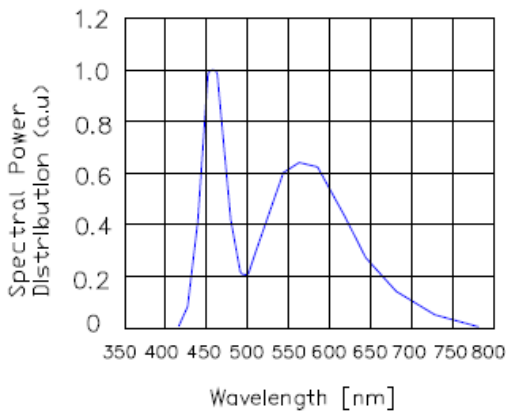


Fig 5. Spectral Power Distribution vs. Wavelength

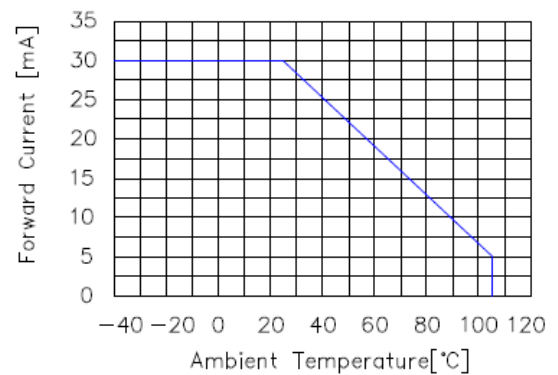
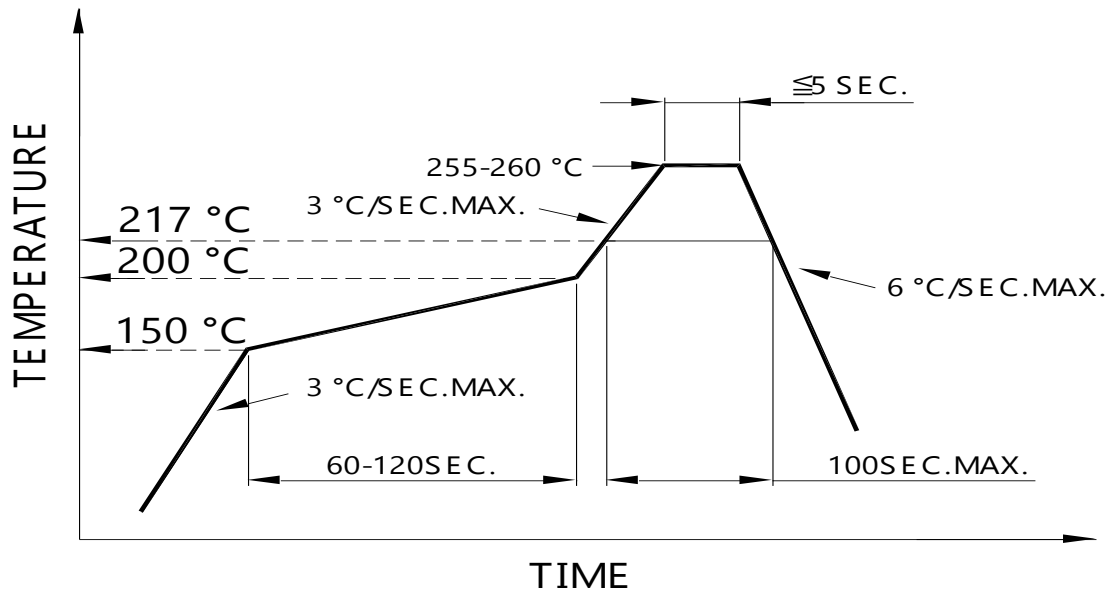


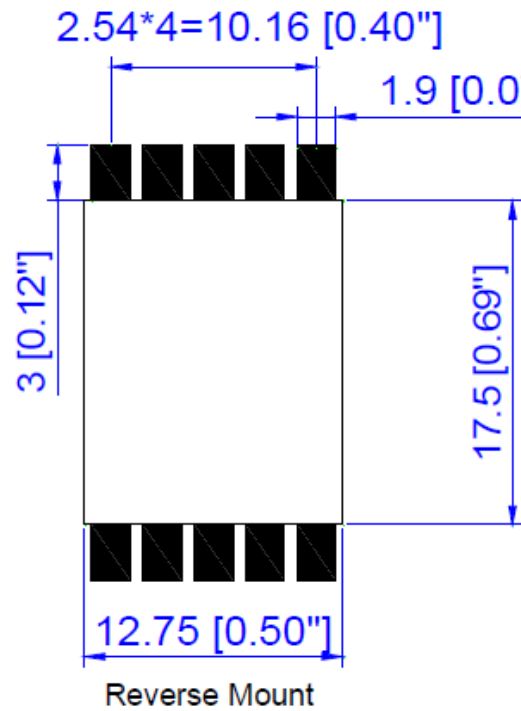
Fig 6. Forward current vs. Temperature

Solder Profile & Footprint

Pb free reflow soldering Profile



Recommended Pad Layout



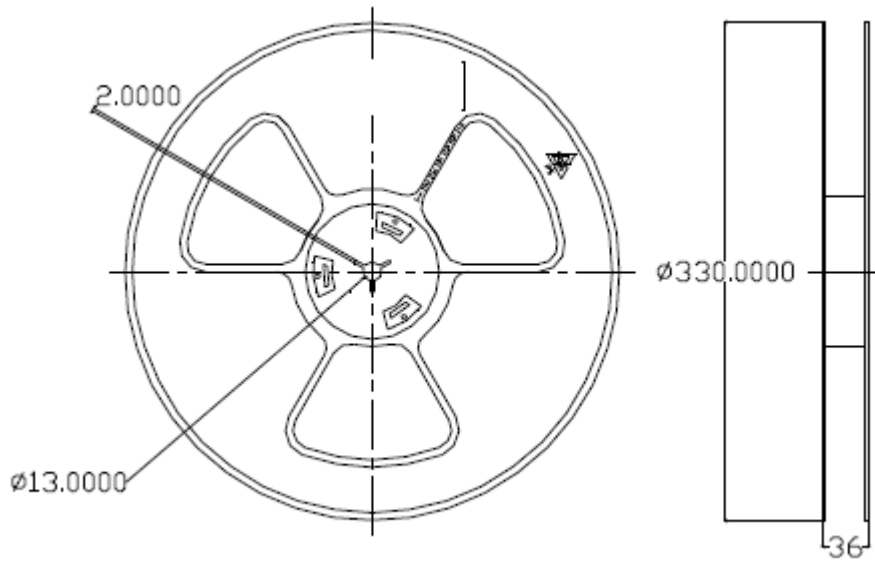
Units: mm

Tolerance: ±0.25mm

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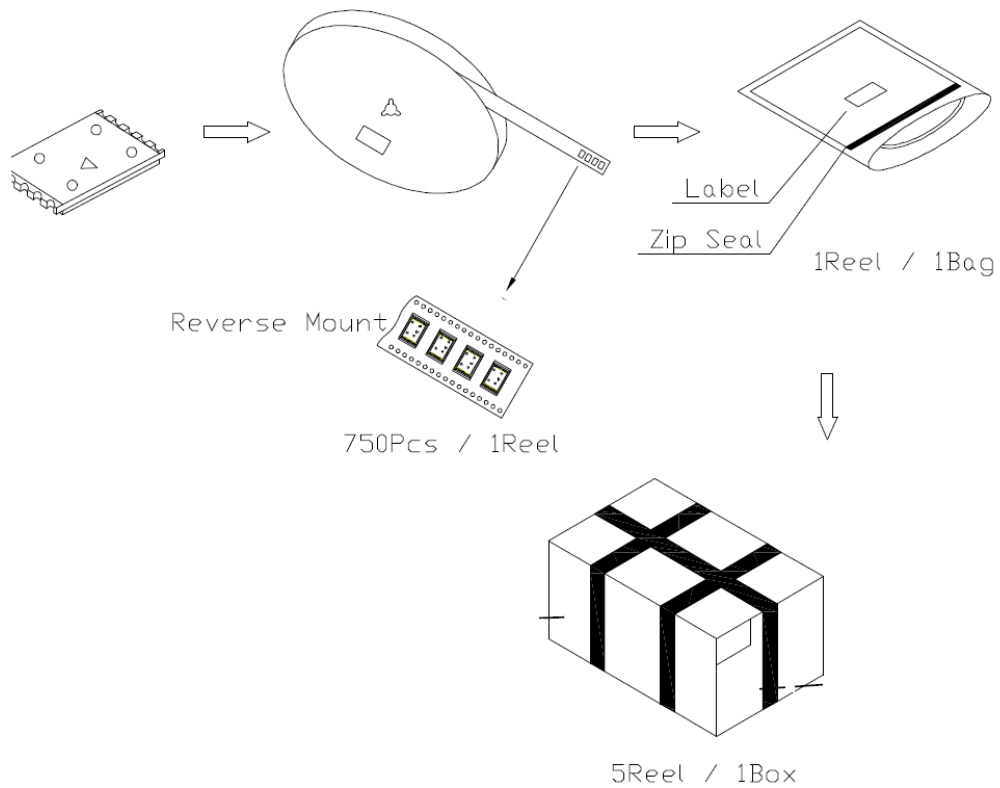
Packing & Labeling

Reel Dimensions:



Unit: mm

Packing Method:



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Ordering Information

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

Revision History

Description:	Revision #	Revision Date
New Release of QBSST56ZXX-R	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.