

**Features**

- Ultra Stable
- Wide Temperature Range
- SMD Package (7.0x5.0mm)
- Provide Stratum III Level Frequency Stability

**Applications**

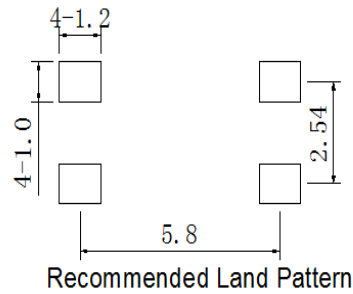
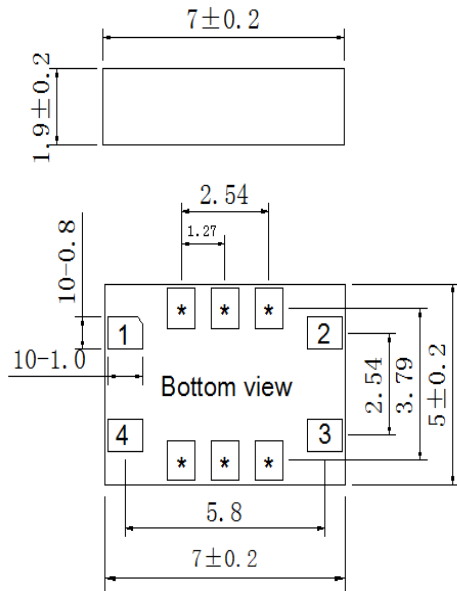
- Base Stations
- Instrumentations
- Synthesizer
- SDH/SONET
- Medical Electronics


**BT0507A/B Specifications**

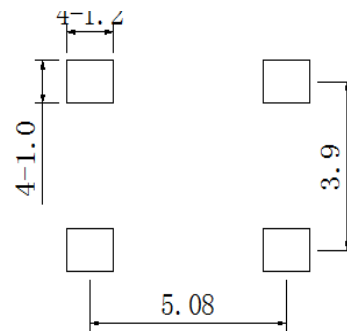
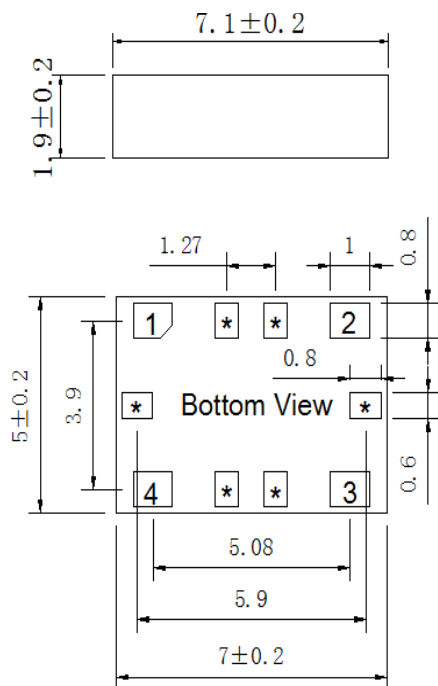
Parameter	Value			Unit	Conditions	
	Min.	Typ.	Max.			
Supply Voltage	-	3.3	-	V		
	-	5	-	V		
Supply Current	5	-	15	mA		
Frequency Range	10 ~ 52			MHz		
Nominal Frequency	10, 12.8, 16.384, 19.2, 19.44, 20, 24.576, 25, 26, 30.72, 40, 50			MHz		
Initial Frequency Tolerance	±0.05	-	±0.5	ppm	At shipment, nominal EFC, +25°C	
Freq. Stability Vs. Temp.	±0.05	-	±0.5	ppm	-20°C~+70°C	
	±0.05	-	±0.5	ppm	-40°C~+85°C	
	±0.2	-	±1.0	ppm	-50°C~+90°C	
	±0.5	-	±1.0	ppm	-55°C~+95°C	
Clipped Sine Wave	Output Level	0.8	-	Vp-p		
	Load	10kΩ//10pF				
LVCMOS	V <sub>OH</sub>	2.4	-	V	LVCMOS Output, Load=15pf	
	V <sub>OL</sub>	-	-	0.4	V	LVCMOS Output, Load=15pf
	Duty Cycle	45	-	55	%	(V <sub>OH</sub> - V <sub>OL</sub> )/2
	Rise/Fall Edge	-	-	6	ns	LVCMOS Output, Load=15pf
	Load	-	-	15	pf	
RMS Jitter(By E5052B)	0.4	-	1.3	ps	12KHz~5MHz	
Supply Sensitivity	-	-	±0.1	ppm	Vcc±5%	
Load Sensitivity	-	-	±0.2		Load±5%	
Aging/ First Year	-	-	±1.0		Standard	
	±0.3	-	±0.8		Customized	
SSB Phase Noise @10MHz	-	-	-95	dBc/Hz	Offset 10Hz	At +25°C
	-	-	-120		Offset 100Hz	
	-	-	-140		Offset 1kHz	
	-	-	-145		Offset 10kHz	
	-	-	-150		Offset 100kHz	
Control Voltage Range	1.5 ± 1.0			V		
Frequency Turning Range	±5	-	±12	ppm		
Tuning Slope	Positive					
Non-linearity	-	-	10	%		

**Phase Noise @1KHz**

Freq. Range	<-125dBc	<-130dBc	<-135dBc	<-140dBc	
10MHz				A	A=Available N/A=Not Available
12.8~20MHz			A	N/A	
20.48~38.4MHz		A	N/A	N/A	
40MHz	A	N/A	N/A	N/A	

**Outline Dimension & Pin Connections**
**Package A:**

**Pin Connection**

Pin 1	Vcon,Control Voltage
Pin 2	Gnd,Ground
Pin 3	Fo,Output
Pin 4	Vdd,Supply voltage

**Package B:**

**Recommended Land Pattern**
**Pin Connection**

Pin 1	Vcon,Control Voltage
Pin 2	Gnd,Ground
Pin 3	Fo,Output
Pin 4	Vdd,Supply Voltage

**Note:**

1. The pins with "\*" are for factory test.
2. Leave pin 1 unconnected If Vcon is not used.

**Environmental Conditions**

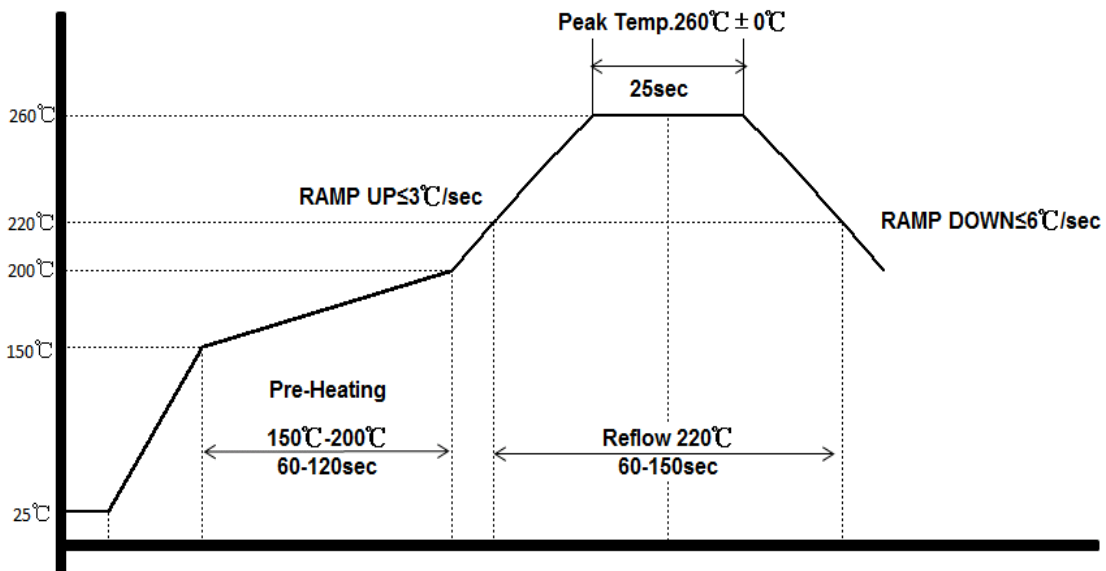
Operating Temperature Range	-55°C ~ +95°C
Storage Temperature Range	-55°C ~ +125°C

**Maximum Ratings**

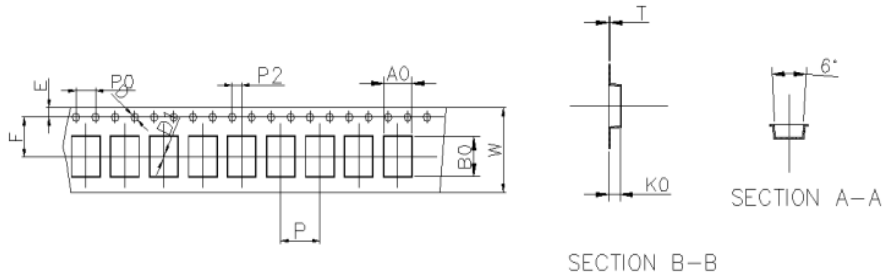
Parameter	Symbol	Rating
Supply Voltage	Vdd	-0.5V / 6V
Control Voltage	Vcon	0V / 3V
ESD, HBM/CDM/MM		4KV/ 2KV/ 200V

**Reliability**

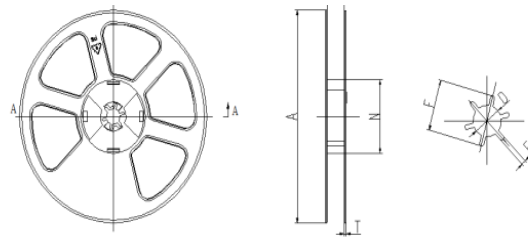
Parameter	Condition
Temperature Stress Test	IEC60068, GJB360B
Mechanical Stress Test	IEC60068, GJB360B
EMC Test (ESD)	IEC61000, JESD22
Solderability	EIA/JESD22-B102-C
Moisture Sensitive Level	MSL3
Contact Pads	Gold over Nickel
RoHS	RoHS Directive 2011/65/EU Annex II Recasting 2002/95/EC

**IR Reflow Profile**


Tape & Reel



ITEM	W	A0	B0	K0	P	F	E	D	P0	P2	t	7'	
DIM	16.0	5.7	7.6	2.4	8	7.5	1.75	1.50	4.00	2.00	0.30	L/R	QTY/PCS
TOLE	+0.30 -0.30	+0.15 -0.15	+0.15 -0.15	+0.15 -0.15	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.00	+0.10 -0.10	+0.10 -0.10	+0.05 -0.05	5M/R	500 PCS



Item	W	A	N	T	E	F	D
Size	16.4	178	62	1.8	2	21.8	13.5
TOL	±0.3	±0.5	±0.4	±0.2	±0.5	±0.8	±0.3

Ordering Guide

**BT 0507 X X X X XXX X X XX.XX**

Product: TCXO	Frequency: xx MHz
Outline: 7.0mm x 5.0mm	Tuning Range: N: No Tuning A: ±5ppm B: ±7ppm C: ±12ppm
Package: A: Package A B: package B	Phase Noise: A: -120dBc/Hz @ 1kHz B: -125dBc/Hz @ 1kHz C: -130dBc/Hz @ 1kHz D: -135dBc/Hz @ 1kHz E: -140dBc/Hz @ 1kHz G: -145dBc/Hz @ 1kHz
Output: H: LVCMOS C: Clipped Sine Wave	Temp. Stability: 507: ±0.5ppm 207: ±0.2ppm 107: ±0.1ppm 508: ±0.05ppm
Supply Voltage: 3: 3.3 Vdc 5: 5.0 Vdc	
Temp. Range: C: -20°C ~ +70°C I: -40°C ~ +85°C M: -50°C ~ +90°C U: -55°C ~ +95°C F: Customized	

**Example:** BT0507BH3M287DN16.384

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