

**Features**

- Ultra Stable
- Wide Temperature Range
- SMD Package (7.0×5.0mm)
- Provide Stratum III Level Frequency Stability

**Applications**

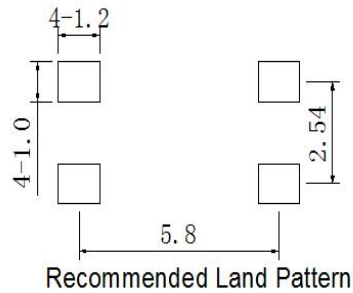
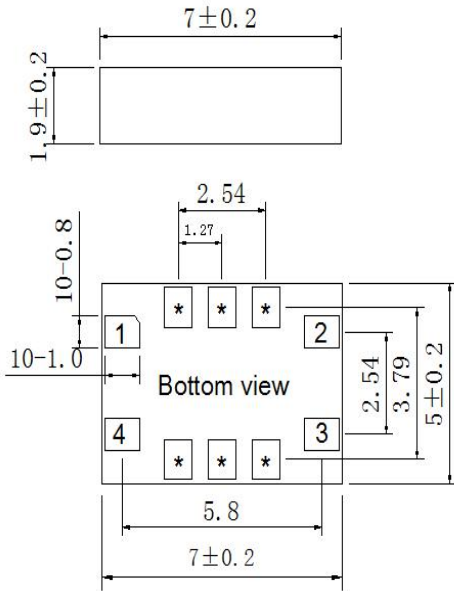
- WiMax/LTE/BTS
- Instrumentations
- Synthesizer
- SDH/SONET
- Medical Electronics


**BT0507A/B Specifications**

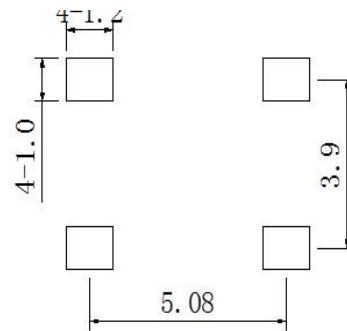
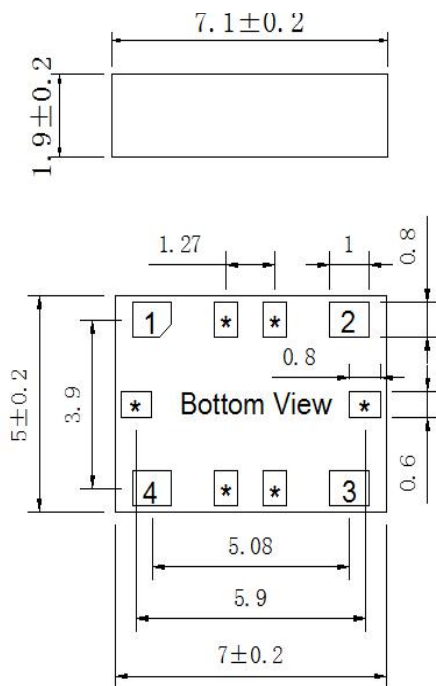
Parameter	Value			Unit	Conditions	
	Min.	Typ.	Max.			
Supply Voltage	-	3.3	-	V		
	-	5	-	V		
Supply Current	5	-	15	mA		
Frequency Range	10 ~ 52			MHz		
Nominal Frequency	10, 12.8, 16.384, 19.2, 19.44, 20, 24.576, 25, 26, 30.72, 40, 50			MHz		
Initial Frequency Tolerance	±0.05	-	±0.5	ppm	At shipment, nominal 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				
CMOS	V <sub>OH</sub>	2.4	-	V	CMOS Output, Load=15pf	
	V <sub>OL</sub>	-	-	0.4	V	CMOS Output, Load=15pf
	Duty Cycle	45	-	55	%	(V <sub>OH</sub> - V <sub>OL</sub> )/2
	Rise/Fall Edge	-	-	6	ns	CMOS 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	
	-	-	-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	A=Available N/A=Not Available
10MHz				A	
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

**Ordering Guide**
**BT 0507 X X X X XXX X X XX.XX**

Product:  
TCXO

Outline:  
7.0mm x 5.0mm

Package:  
A: Package A  
B: package B

Output:  
H: CMOS  
C: Clipped Sine Wave

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

Frequency:  
xx MHz

Tuning Range:  
N: No Tuning  
A: ±5ppm  
B: ±7ppm  
C: ±12ppm

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

Temp. Stability:  
507: ±0.5ppm  
207: ±0.2ppm  
107: ±0.1ppm  
508: ±0.05ppm

**Example:** BT0507BH3M287DN16.384

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