

Features

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

Applications

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


BT0507C/D Specifications

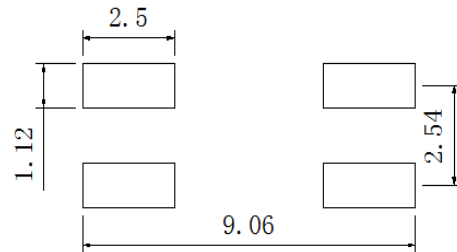
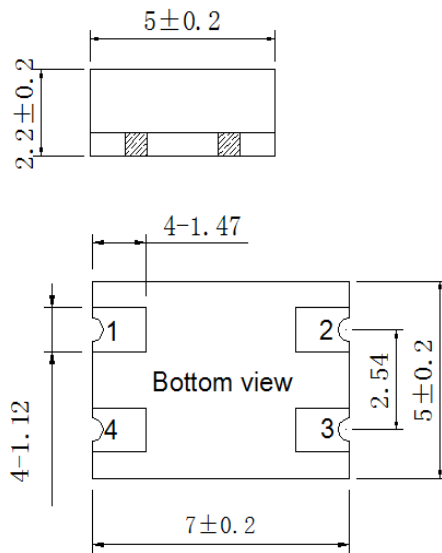
Parameter		Value			Unit	Conditions	
		Min.	Typ.	Max.			
Supply Voltage		—	3.3	—	V		
		—	5	—	V		
Supply Current		3	—	6	mA		
Frequency Range		10 ~ 51.2			MHz		
Nominal Frequency		10, 12.8, 16.384, 19.2, 19.44, 20, 24.576, 25, 26, 30.72, 40, 50			MHz		
Initial Frequency Tolerance		±0.5	—	±1.0	ppm	At shipment, nominal EFC, +25℃	
Freq. Stability Vs. Temp.		±0.5	—	±1.0	ppm	-20℃~+70℃	
		±0.5	—	±1.0	ppm	-40℃~+85℃	
Clipped Sine Wave	Output Level	0.8	—	—	Vp-p		
	Load	10kΩ//10pF					
LVCMOS	V _{OH}	2.4	—	—	V	LVCMOS Output, Load=15pf	
	V _{OL}	—	—	0.4	V	LVCMOS Output, Load=15pf	
	Duty Cycle	45	—	55	%	(V _{OH} - V _{OL})/2	
	Rise/Fall Edge	—	—	6	ns	LVCMOS Output, Load=15pf	
	Load	—	—	15	pf		
RMS Jitter(By E5052B)		—	—	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℃
		—	—	-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

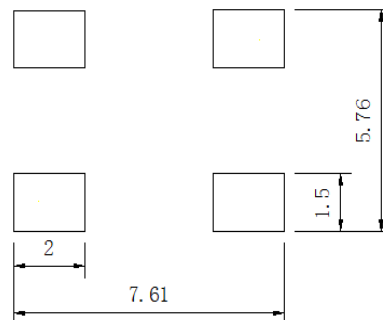
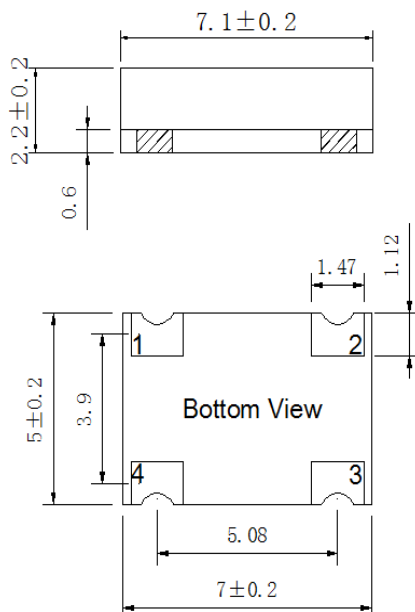
Freq. Range	<-125dBc	<-130dBc	<-135dBc	<-140dBc
10MHz				A
12.8~20MHz			A	N/A
20.48~38.4MHz		A	N/A	N/A
40MHz	A	N/A	N/A	N/A

A=Available

N/A=Not Available

Outline Dimension & Pin Connections
Package C:

Recommended Land Pattern
Pin Connection

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

Package D:

Recommended Land Pattern
Pin Connection

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

Note: Leave pin 1 unconnected If Vcon is not used.

Environmental Conditions

Operating Temperature Range	-40℃ ~ +85℃
Storage Temperature Range	-55℃ ~ +125℃

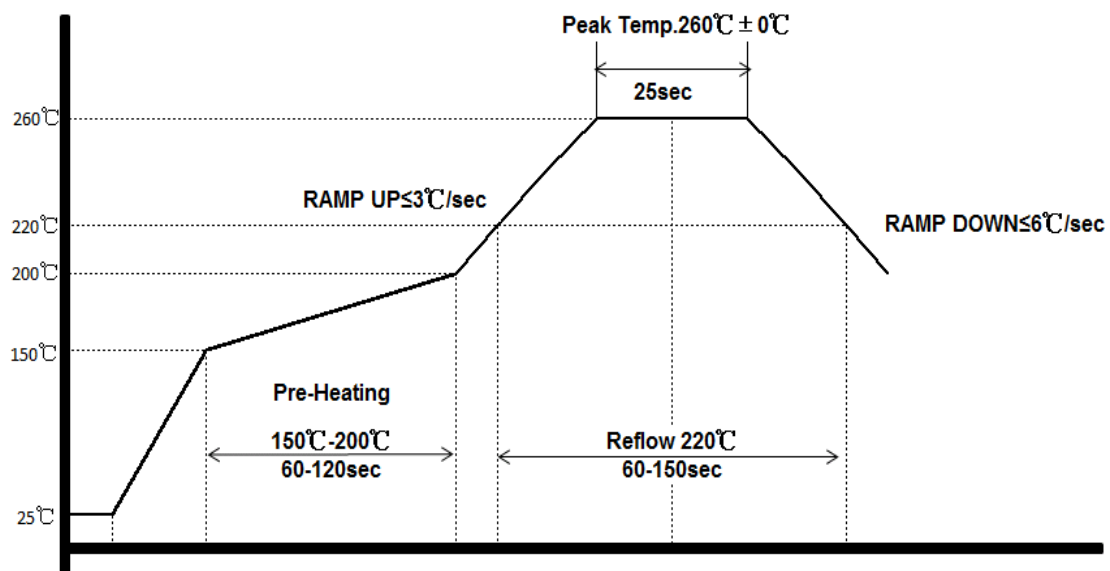
Maximum Ratings

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

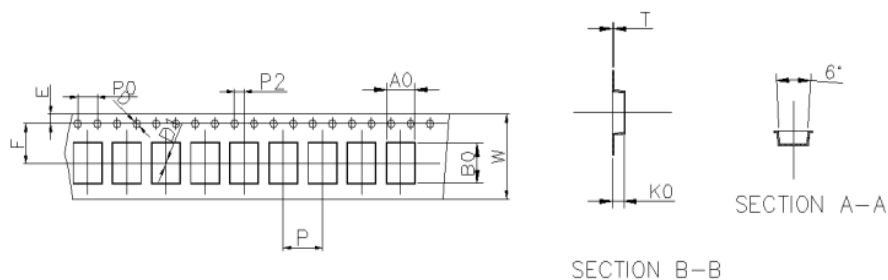
Reliability

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

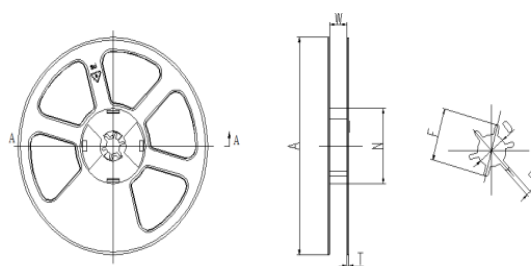
IR Reflow Profile



Tape & Reel



ITEM	W	A0	B0	K0	P	F	E	D	P0	P2	t	r'	
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

Outline:
7.0mm x 5.0mm

Package:
C: Pakcage C
D: package D

Output:
H: LVC MOS
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
F: Customized

Frequency:
xx MHz

Tuning Range:
N: No Tuning
A: $\pm 5\text{ppm}$
B: $\pm 7\text{ppm}$
C: $\pm 12\text{ppm}$

Phase Noise:
A: -120dBc/Hz@1kHz
B: -125dBc/Hz@1kHz
C: -130dBc/Hz@1kHz
D: -135dBc/Hz@1kHz
E: -140dBc/Hz@1kHz

Temp. Stability.
106: $\pm 1\text{ppm}$
507: $\pm 0.5\text{ppm}$

Example: BT0507CH3C106CA30.72

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