

Features

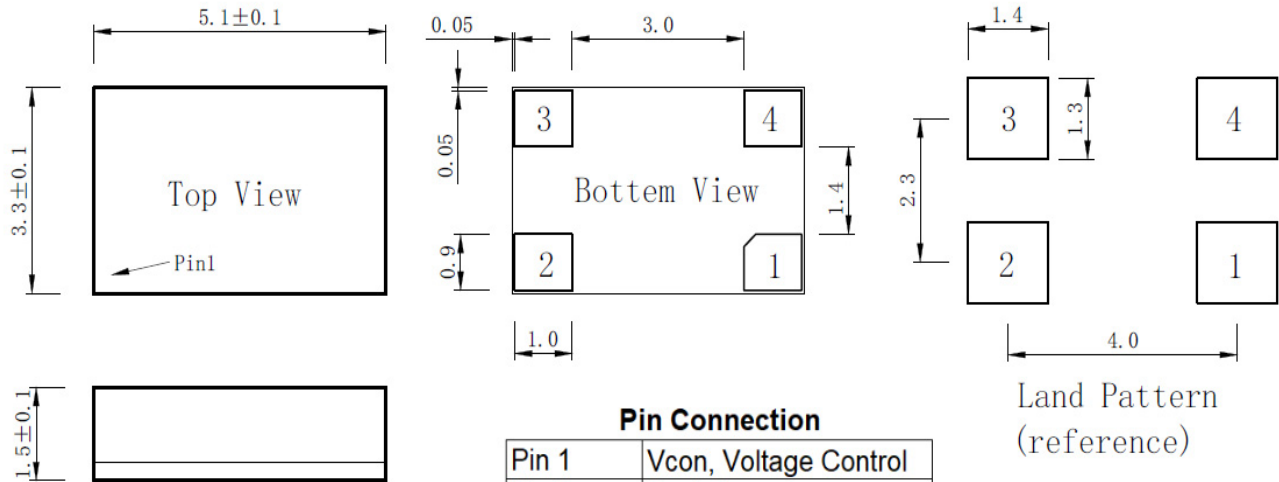
- Ultra Stable
- Wide Temperature Range
- SMD Package (5.0x3.2mm)

Applications

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


BT0503B Specifications

Parameter	Value			Unit	Conditions	
	Min.	Typ.	Max.			
Supply Voltage	–	3.3	–	V		
Supply Current	1.5	–	2.5	mA		
Frequency Range	10~ 52			MHz		
Nominal Frequency	10, 19.2, 20, 25, 26, 30.72, 40			MHz		
Initial Frequency Tolerance	-	–	±1.0	ppm	At shipment, nominal EFC, +25°C	
Freq. Stability Vs. Temp.	±0.5	–	±1.0	ppm	-40°C ~ +85°C	
Clipped Sine Wave	Output Level	0.8	–	Vp-p		
	Load	10kΩ//10pF				
LVCMOS	V _{OH}	0.8V _{dd}	–	V	LVCMOS Output, Load=15pf	
	V _{OL}	–	–	0.2V _{dd}	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	
Supply Sensitivity	–	–	±0.2	ppm	V _{cc} ±5%	
Load Sensitivity	–	–	±0.2		Load±10%	
Aging/ First Year	–	–	±1.0		Standard	
	-	–	±1.0		Customized	
SSB Phase Noise @10MHz	–	–	-80	dBc/Hz	Offset 10Hz	
	–	–	-115		Offset 100Hz	
	–	–	-135		Offset 1kHz	
	–	–	-148		Offset 10kHz	
	–	–	-148		Offset 100kHz	
Control Voltage Range	1.5 ± 1.0V					
Frequency Turning Range	±5	–	±10	ppm		
Tuning Slope	Positive					
Non-linearity	–	–	10	%		

Outline Dimension & Pin Connections
Outline Dimensions (Unit : mm)

Pin Connection

Pin 1	Vcon, Voltage Control
Pin 2	Gnd, Ground
Pin 3	F0, Output
Pin 4	Vdd, Supply Voltage

Environmental Conditions

Operating Temperature Range	-40°C ~ +85°C
Storage Temperature Range	-55°C ~ +125°C

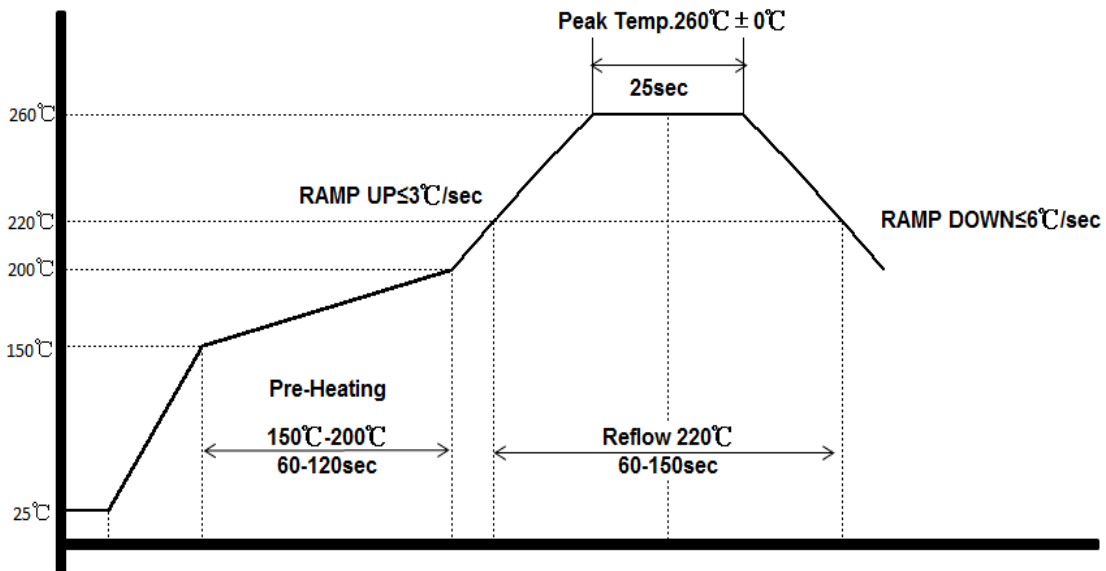
Maximum Ratings

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



Ordering Guide

BT 0503 B X X X XXX X X XX.XX

Product:
TCXO

Outline:
5.0mm x 3.2mm

Package:
B: package B

Output:
H: CMOS
C: Clipped Sine Wave

Supply Voltage:
3: 3.3 Vdc
5: 5.0 Vdc

Temp. Range:
C: $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$
I: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
F: Customized

Frequency:
xx MHz

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

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

Temp. Stability:
206: $\pm 2.0\text{ppm}$
106: $\pm 1.0\text{ppm}$
507: $\pm 0.5\text{ppm}$

Example: BT0507BH3C106DN10

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