

## Features

- Ultra Stable
- Wide Temperature Range
- SMD Package(7.0x5.0mm)

## Applications

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



## BT0507E Specifications

Parameter	Value			Unit	Conditions	
	Min.	Typ.	Max.			
Supply Voltage	-	3.3	-	V		
	-	5	-	V		
Supply Current	-	-	15	mA	-40°C~+85°C	
	-	-	80	mA		
Frequency Range	10~60			MHz		
Nominal Frequency	10,20,40,50			MHz		
Initial Frequency Tolerance	±0.50	±1.0	±2.0	ppm	At shipment, nominal EFC, +25°C	
Freq. Stability Vs. Temp.	±0.28	-	±2	ppm	-40°C ~ +85°C	
	±0.28	±0.5	±2.0	ppm	-50°C ~ +85°C	
	±0.28	±0.5	±2.0	ppm	-55°C ~ +85°C	
	±0.50	±1.0	±2.0	ppm	-60°C ~ +85°C	
Clipped Sine Wave	Output Level	0.8	-	-	Vp-p	
	Load	10kΩ//10pF				
Sine Wave	Output Level	7	-	-	dbm	
	Harmonious			-30	dBc	
	Spurious			-70	dBc	
	Load	50ohm				
HCMOS	V <sub>OH</sub>	2.4	-	-	V	HCMOS Output, Load=15pf
	V <sub>OL</sub>	-	-	0.4	V	HCMOS Output, Load=15pf
	Duty Cycle	45	-	55	%	(V <sub>OH</sub> - V <sub>OL</sub> )/2
	Rise/Fall Edge	-	-	6	ns	HCMOS 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°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	%		
Input impedance	100	-	-	KΩ		
Phase Noise @1KHz						
Frequency Range	<-125dBc	<-130dBc	<-135dBc	<-140dBc	○=Available X= Not Available	
10MHz	○	○	○	○		
12.8~20MHz	○	○	○	X		
20.48~38.4MHz	○	○	X	X		
≥40MHz	○	X	X	X		

### Environmental Conditions

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

### Outline Dimension & Pin Connections

**Package E**

**Pin Connections**

Pin1	Vcon/NC
Pin2	OE/NC
Pin3	GND
Pin4	Output
Pin5	NOutput/NC
Pin6	Vcc

**Recommended Land Pattern**

### 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

### Ordering Guide

## BT 0507 E X X X XXX X X XX.XX

<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Product: TCXO</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Outline: 7.0mm x 5.0mm</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Package Type: E: Package E</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Output: H: CMOS C: Clipped Sine Wave S: Sine Wave</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Supply Voltage: 3: 3.3 V 5: 5.0 V</div> <div style="border: 1px solid black; padding: 2px;">Temp. Range: I: -40~+85°C M: -50°C ~ +90°C U: -55°C ~ +95°C W: -60°C ~ +85°C F: Customized</div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Frequency: xx MHz e.g.: 10 (10MHz)</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Tuning Range: N: No Tuning A: ±5ppm min. B: ±7ppm min.</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">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</div> <div style="border: 1px solid black; padding: 2px;">Temp. Stability: 206: ±2.0ppm 106: ±1.0ppm 507: ±0.5ppm 287: ±0.28ppm</div>
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**Example:** BT0503DH3C106CA30.72