

Features

- Ultra Wide Operating Temp.
- Low Phase Noise
- DIP Package(12.6*20.2mm)

Applications

- Base Stations
- Instrumentations
- Synthesizer
- WiMax/LTE/BTS

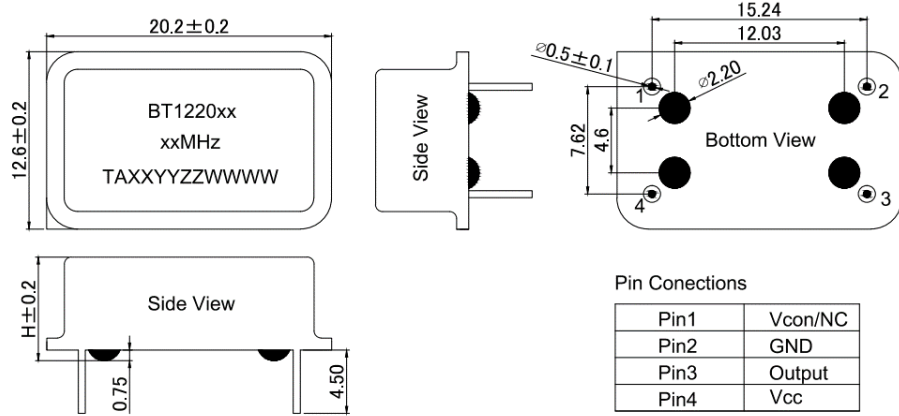

BT1220 Series Specifications

Parameter	Value			Unit	Conditions	
	Min.	Typ.	Max.			
Supply Voltage	-	3.3	-	V	V _{CC} ±5%	
	-	5	-	V	V _{CC} ±5%	
Current with Output	-	-	45	mA		
Frequency Range	10 ~ 125			MHz		
Nominal Frequency	10, 20, 40, 50, 100, 102.4, 120, 122.88, 125			MHz		
Initial Frequency Tolerance	±0.3	±0.5	±1.0	ppm	At shipment, nominal EFC, +25	
Freq. Stability Vs. Temp.	±0.1	±0.5	±2.0	ppm	-40°C ~ +85°C	
	±0.28	±0.5	±2.0	ppm	-50°C ~ +85°C	
	±0.5	±1.0	±2.0	ppm	-55°C ~ +95°C	
Sine wave	Output Level	7	-	-	dBm	
	Harmonics	-	-	-30	dBc	
	Spurious	-	-	-70	dBc	
	Load	-	50	-	Ω	
HCMOS	V _{OH}	2.4	-	-	V	HCMOS Output, Load=15pf
	V _{OL}	-	-	0.4	V	HCMOS Output, Load=15pf
	Duty Cycle	45	-	55	%	(V _{OH} - V _{OL})/2
	Rise/Fall Edge	-	-	6	ns	HCMOS Output, Load=15pf
	Load	-	-	15	pf	
RMS Jitter(By E5052B)	20	-	40	fs	12KHz~5MHz @100MHz	
Supply Sensitivity	-	-	±0.1	ppm	V _{CC} ±5%	
Load Sensitivity	-	-	±0.2		Load±5%	
Aging/ First Year	-	-	±1.0		Standard	
SSB Phase Noise @100MHz	-	-77	-75	dBc/Hz	Offset 10Hz	At +25°C
	-	-112	-110		Offset 100Hz	
	-	-142	-140		Offset 1kHz	
	-	-158	-155		Offset 10kHz	
	-	-163	-158		Offset 100kHz	
Control Voltage Range	1.5 ± 1.0			V		
Frequency Turning Range	±5	-	±12	ppm		
Tuning Slope	Positive					
Linearity	-	-	10	%		
Phase Noise@1KHz						
Frequency Range	<-135dBc	<-140dBc	<-145dBc	<-150dBc	○=Available X = No Available	
10MHz~20MHz(Including 20MHz)	○	○	○	○		
20MHz~100MHz(Including 100MHz)	○	○	○	X		
>100MHz	○	○	X	X		

Environmental Conditions

Operating Temperature Range	-55°C ~ +95°C
Storage Temperature Range	-55°C ~ +105°C

Outline Dimension & Pin Connections



Pin Connections

Pin1	Vcon/NC
Pin2	GND
Pin3	Output
Pin4	Vcc

- Note:**
1. Leave pin 1 unconnected if Vcon is not used.
 2. The height 6mm or 8mm is available.

Maximum Ratings

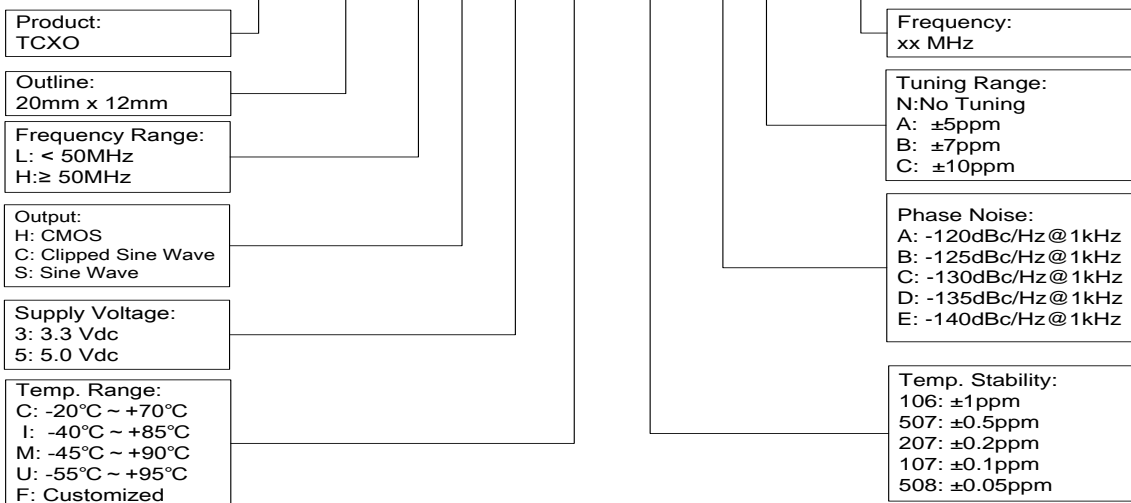
Parameter	Symbol	Rating
Supply Voltage	Vdd	-0.5V / 6V
Control Voltage	Vcon	0V / 3V
ESD, HBM/CDM/MM		4KV/ 2KV/ 200V

Reliability

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

Ordering Guide

BT 1220 L X X X XXX X X XX.XX



Example: BT1220LS5C107DN10