



## Features and Benefits

Frequency range: 5MHz-100MHz  
Supply voltage: 2.5V/2.8V/3.0V/3.3V  
Current: 10mA Max.  
Output waveform: CMOS  
Frequency stability vs. temperature:  $\pm 0.05\text{PPM}$ -1PPM  
Aging:  $\pm 1\text{PPM}$  per year  
Phase noise: -152dBc/Hz @ 100KHz:  
Operating temperature: -40°C to +85°C  
Size: 5x3.2x1.7 mm

## Typical Applications

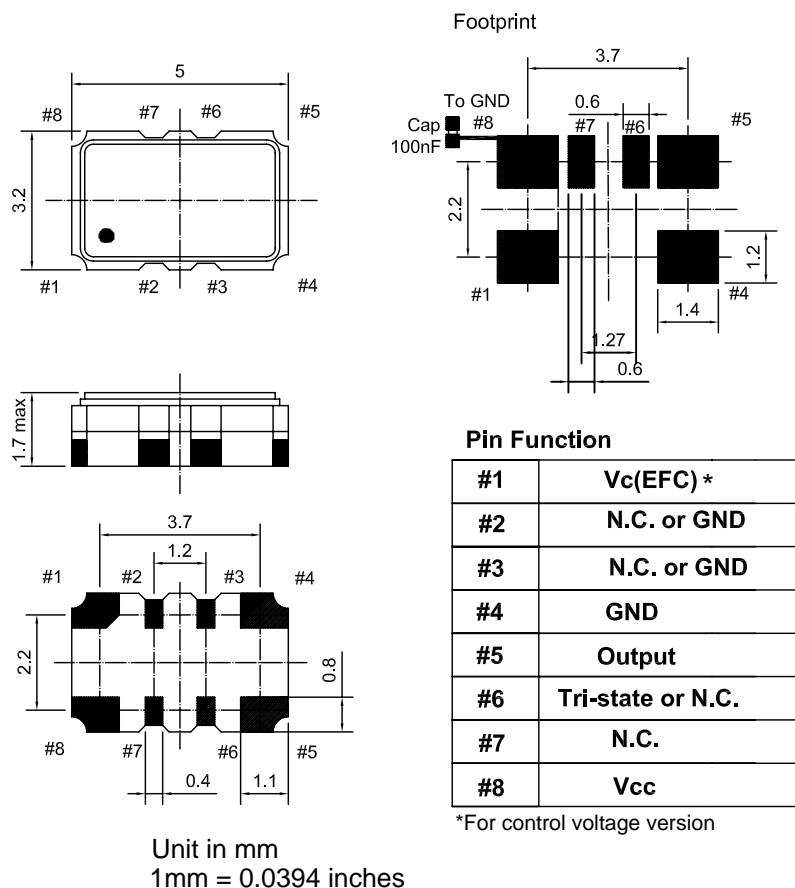
Portable Wireless Communications  
Mobile Test Equipment  
Radio  
SATCOM System

## Description

TCXO5300BT-HS\_CMOS is the high stability and low phase noise small size TCXO. It can be widely used in the portable communication devise.

## Mechanical Drawing & Pin Connections

Drawing No: MD150017-8



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f <sub>0</sub>		5		100	MHz	
RF Output							
Output Waveform			CMOS				
Output Level High			0.9*V <sub>cc</sub>			V	
Output Level Low					0.1*V <sub>cc</sub>	V	
Output Load			5		15	pF	
Tri-state function		PIN#6 high or open	Pin#5 oscillation				
		PIN#6 low or GND	Pin#5 high impedance				
Power Supply							
Voltage	V <sub>cc</sub>	±5%		3.3		V	See ordering section
Current					10	mA	
Frequency Control							
Control Voltage Range		For 2.5V V <sub>cc</sub>	0.25	1.25	2.25	V	
		For 3.3V V <sub>cc</sub>	0.5	1.5	2.5	V	
Tuning Range		Positive slope	±5			ppm	See ordering section
EFC input impedance			100			Kohm	
Frequency Stability							
Tolerance		@+25°C			1.0	ppm	
Versus Temperature Reference to (FMAX+FMIN)/2					±0.1	ppm	See ordering section
Versus Aging@+40°C		1 <sup>st</sup> year			±1.0	ppm	
G-sensitivity		Per axis			2.0	ppb/g	
Phase noise (typ.)		10 Hz		-83		dBc/Hz	For 40MHz
		100 Hz		-110			
		1 KHz		-135			
		10 KHz		-148			
		100 KHz		-152			
Environmental Conditions							
Operating temperature range		See ordering section					
Storage temperature range		-55°C to +110 °C					
Reflow Profiles as per IPC/JEDEC J-STD-020C		≤260°C over10 sec. Max.					

Note: Unless otherwise specified conditions are @+25 °C



## Ordering Information

TCXO5300BT-HS-XXMHz_CMOS	-	01	02	03	04
Group		Code			

For example, TCXO5300BT-HS-10MHz\_CMOS-1141 denotes the TCXO has the following specifications:

Temperature Range:	-20°C to +70°C
Stability Over Temperature:	±0.05 ppm
Supply Voltage:	3.3V
Pulling Range:	No control voltage function

01	Temperature Range
Code	Specification
1	-20°C to +70°C
2	-40°C to +85°C
3	-40°C to +95°C
4	-40°C to +105°C
5	-55°C to +85°C

02	Frequency Stability
Code	Specification
1	±0.05 ppm
2	±0.1 ppm
3	±0.20 ppm
4	±0.25 ppm
5	±0.5 ppm
6	±1.0 ppm

03	Supply Voltage
Code	Specification
1	2.5 V
2	2.8 V
3	3.0 V
4	3.3 V

04	Pulling Range
Code	Specification
1	No Control Voltage
2	±5.0 ppm
3	±8.0 ppm (2.5V V <sub>cc</sub> )
4	±10 ppm (3.3V V <sub>cc</sub> )

## Frequency Stability vs. Temperature

Temperature range [°C]	Frequency Stability					
	±0.05 ppm	±0.10 ppm	±0.20 ppm	±0.25 ppm	±0.5 ppm	±1.0 ppm
-20°C to +70°C	On Request	Available	Available	Available	Available	Available
-40°C to +85°C	On Request	Available	Available	Available	Available	Available
-40°C to +95°C	Not Available	Not Available	On Request	On Request	On Request	Available
-40°C to +105°C	Not Available	Not Available	On Request	On Request	On Request	On Request
-55°C to +85°C	Not Available	Not Available	Not Available	On Request	On Request	On Request