



### Features and Benefits

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

### Typical Applications

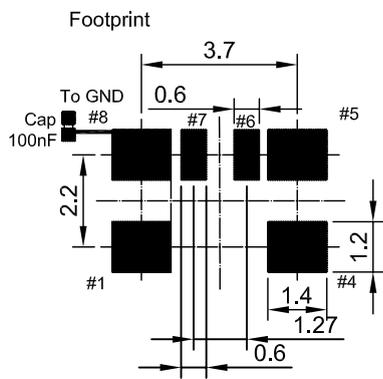
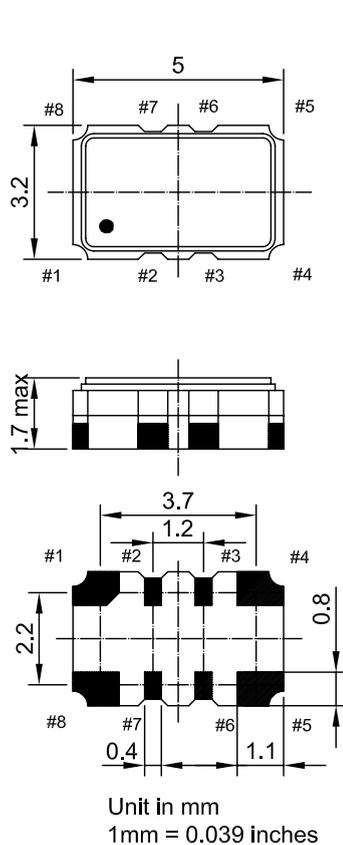
- Portable Wireless Communications
- Mobile Test Equipment
- Radio
- SATCON System

### Description

TCXO5300BT-HS\_CS 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



#### Pin Function

#1	Vc(EFC)*
#2	N.C. or GND
#3	N.C. or GND
#4	GND
#5	Output
#6	Tri-state or N.C.
#7	N.C.
#8	Vcc

\* For control voltage version



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f <sub>0</sub>		5		100	MHz	
<b>RF Output</b>							
Output Waveform			Clipped sine				
Output Level			0.8			Vp-p	
Output Load			10K//10pF				
Tri-state function		PIN#6 high or open	Pin#5 oscillation				
		PIN#6 low or GND	Pin#5 high impedance				
<b>Power Supply</b>							
Voltage	V <sub>cc</sub>	±5%		3.3		V	See ordering section
Current					7	mA	
<b>Frequency Control</b>							
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	
<b>Frequency Stability</b>							
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			
<b>Environmental Conditions</b>							
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_CS	-	01	02	03	04
Group		Code			

For example, TCXO5300BT-HS-10MHz\_CS-1131 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	3.3 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