Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

TCXO5300BT-HS_CMOS

High Stability and Low Phase Noise TCXO

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: ±0.05PPM-1PPM
Aging: ±1PPM per year
Phase noise: -152dBc/Hz@100KHz:
Operating temperature: -40°C to +85°C
Size: 5x3.2x1.7 mm

Typical Applications

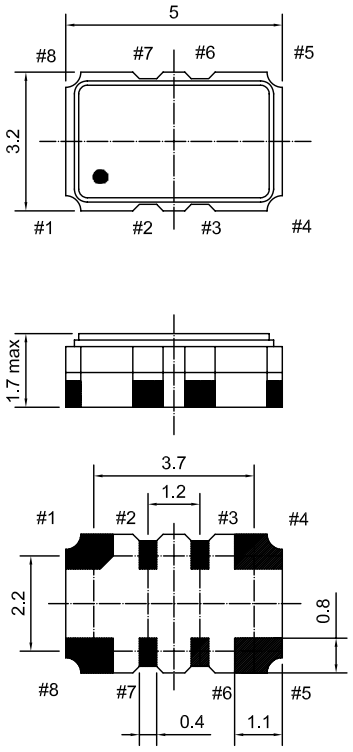
Portable Wireless Communications
Mobile Test Equipment
Radio
SATCOM System

Description

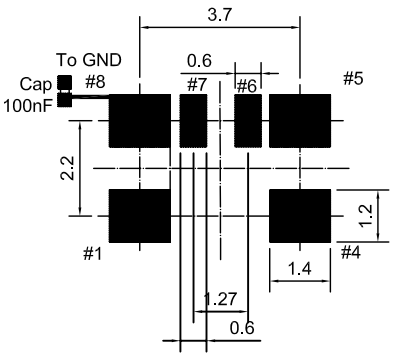
TCXO5300BT-HS_CMOS is the high stability and low phase noise small size TCXO. It can be widely used in the portable communication devise.

Mechanical Drawing & Pin Connections

Drawing No: MD150017-8



Footprint



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

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f_0		5		100	MHz	
RF Output							
Output Waveform			CMOS				
Output Level High			0.9*V_{cc}			V	
Output Level Low					0.1*V_{cc}	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_{cc}	±5%		3.3		V	See ordering section
Current					10	mA	
Frequency Control							
Control Voltage Range		For 2.5V V_{cc}	0.25	1.25	2.25	V	
		For 3.3V V_{cc}	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		1st 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_{cc})
4	±10 ppm (3.3V V_{cc})

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