

## TCXO5300CHP

Temperature Controlled Crystal Oscillator

### Features

Frequency Range 6.4 to 26 MHz  
5.0 mm x 3.2 mm x 2.10 mm SMD  
CMOS or clipped sine wave options  
+/- 0.280 ppm from -40C to 85C

### Picture of Part



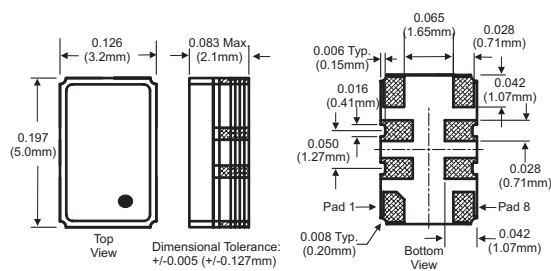
### Typical Applications

Femtocells, GPS Receivers  
Mobile Radio, Test Instrumentation  
System Clocks for wide range of applications  
SATCOM

### Description

The TCXO5300CHP family offers low noise compensation techniques combined with aggressive conditioning processes resulting in outstanding long term frequency stability, tightly distributed performance parameters, and superior long term reliability.

### Physical Dimensions



### Pin Connections

Pad	Connection
1	Voltage Control or N/C
2	Do not connect
3	Do not connect
4	Ground
5	Output
6	Do not connect
7	Do not connect
8	Supply, Vcc

**Specification**

TCXO Specification	Sym.	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
<b>Operational Frequency Range</b>	f <sub>0</sub>		6.4		26	MHz	
	Load				15	pF	
	H - level voltage	V <sub>H</sub>	0.9V <sub>cc</sub>			V	
	L - level voltage	V <sub>L</sub>			0.1V <sub>cc</sub>	V	
	Rise & Fall time				8	ns	
	Duty cycle		45		55	%	
Clipped Sine-wave ONLY	Level	L	1.0			pk-pk	
	Load Resistance	RL		10		Kohm	
	Load Capacitance	CL		10		pF	
<b>Power supply</b>							
Voltage	V <sub>cc</sub>		3.135	3.300	3.465	V	
Current consumption	I <sub>cc</sub>			6.0	10.0	mA	square wave
<b>Frequency control*</b>							
Control voltage range	V <sub>c</sub>		0.3	1.65	3.0	V	Positive tuning slope
Tuning range			+/- 10			ppm	
<b>Frequency stability</b>							
vs. temperature		-40°C to +85°C, ref 25°C	-0.280		+0.280	ppm	
vs. 5% change in supply voltage		ref V <sub>cc</sub> typ.	-0.200		+0.200	ppm	
Tolerance at 25C			-1.000		+1.000	ppm	Frequency 1 hr after reflow
<b>SSB Phase noise @ 12.8 MHz CMOS typical</b>		100 Hz		-120		dBc/Hz	
		1000 Hz		-140			
		10 kHz		-150			
Total Aging	Over 20 years	Projected after 30 days operation	-2.500		+2.500	ppm	
<b>Environmental, mechanical conditions.</b>							
Operating temperature range		-40°C to +85°C maximum range available that is standard					
Storage temperature range		-55°C to +125°C					
Mechanical shock		Mil Std 883E Method 2002.4 Test Condition B					
Vibration		Mil Std 883E Method 207.3 Test Condition A					

## Ordering Information

TCXO5300CHP-XX.XXXXXX-W

1. Field " XX.XXXXXX " is the Output Frequency to six decimals in MHz
2. Field " W " is Operating Temperature Range and Freq. Stability :
  - a. " 0 " for -40°C to +85°C and +/- 0.500 ppm
  - b. " 1 " for -40°C to +85°C and +/- 0.280 ppm
  - c. " 2 " for -40°C to +85°C and +/- 1.000 ppm
  - d. \*\*\*NOT all choices in section 2 available : Must consult factory for specific frequency and stability combination.

## Part Number Example

TCXO5300CHP-10.000000-1

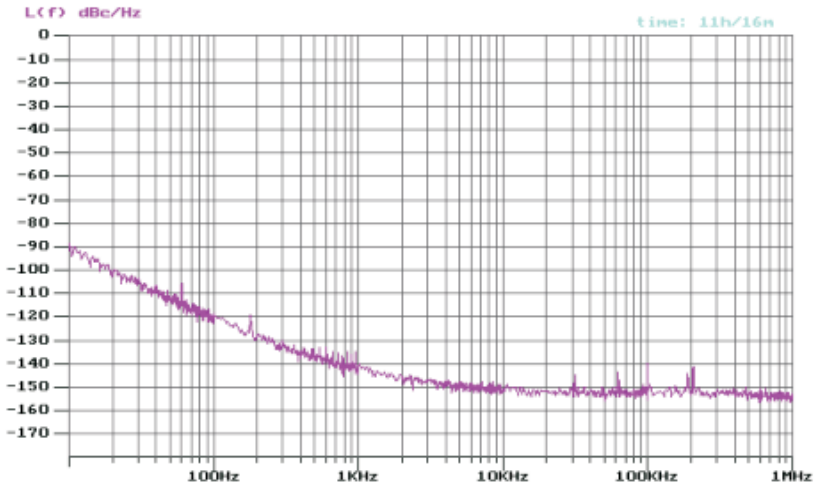
10.000000 MHz Operating Frequency

Operating Temperature of -40°C to +85°C

+/- 0.280 ppm Frequency Stability

## Performance Graph

**Typical Phase Noise** TCXO5300CHP - 12.8MHz - LVCMOS Output



## Solder Profile

