

# TCXO5300THP

High Precision SMD VCTCXO

## Features

- Frequency Range 5 to 26 MHz
- 5 mm x 3.2 mm x 1.65 mm ceramic SMD
- +/- 2.5 ppm total aging over 20 years
- CMOS or clipped sine wave options
- +/- 0.280 ppm from -40C to 85C
- +/- 0.100 ppm from -20C to 70C

## Picture of Part



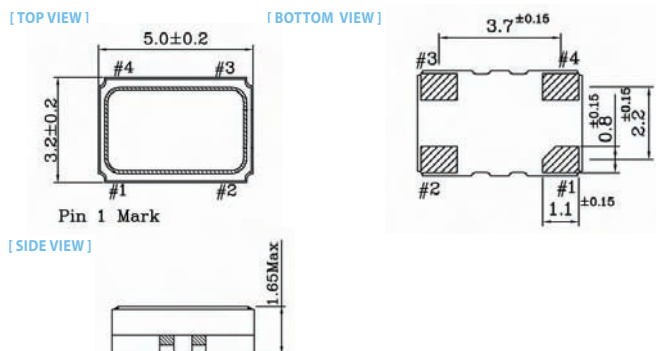
## Typical Applications

- Femtocells, GPS Receivers
- Mobile Radio
- System Clocks for wide range of applications

## Description

The TCXO5300THP 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

PIN#	FUNCTION
1	VCON/TRI-STATE
2	GND
3	OUTPUT
4	VDD

## Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
<b>Operational Frequency Range</b>		f <sub>0</sub>		5		26	MHz	
HCMOS Square wave	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						ns	
	Duty cycle			45		55	%	
Clipped Sine-wave	Level	L		0.8			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	5.0 V option available
Current consumption		I <sub>cc</sub>				6.0 3.5	mA	square wave clipped sine wave
<b>Frequency control*</b>								
Control voltage range		V <sub>c</sub>		0.5	1.5	2.5	V	Positive tuning slope
Tuning range				+/- 5			ppm	
V <sub>c</sub> Input Impedance				100			Kohm	
<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.	-0.100		+0.100	ppm	
Tolerance at 25C				-2.000		+2.000	ppm	Frequency 1 hr after reflow
SSB Phase noise @12.8 MHz CMOS typical			100 Hz			-120	dBc/Hz	
			1000 Hz			-140		
			10 kHz			-148		
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								
Vibration								
Soldering								

## Ordering Information

TCXO5300THP-XX.XXXXXX-W-Y-Z

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 -20°C to +70°C and +/- 0.100 ppm
  - b. " 1 " for -40°C to +85°C and +/- 0.280 ppm
  - c. " 2 " for -40°C to +85°C and +/- 0.500 ppm

\*\*\*NOT all choices in section 2 available : Must consult factory for specific frequency and stability combination.

3. Field " Y " is Power Supply Option :
  - a. " 0 " for 5V +/- 5%
  - b. " 1 " for 3.3V +/- 5%
4. Field " Z " is Output Waveform Option :
  - a. " 0 " for clipped sine wave
  - b. " 1 " for cmos square wave
5. Field " V " :
  - a. " 0 " for clock TCXO ( no voltage control )
  - b. " 1 " for VCTCXO ( voltage control on Pin 1 )

## Part Number Example

TCXO5300THP-20.000000-2-1-0-0