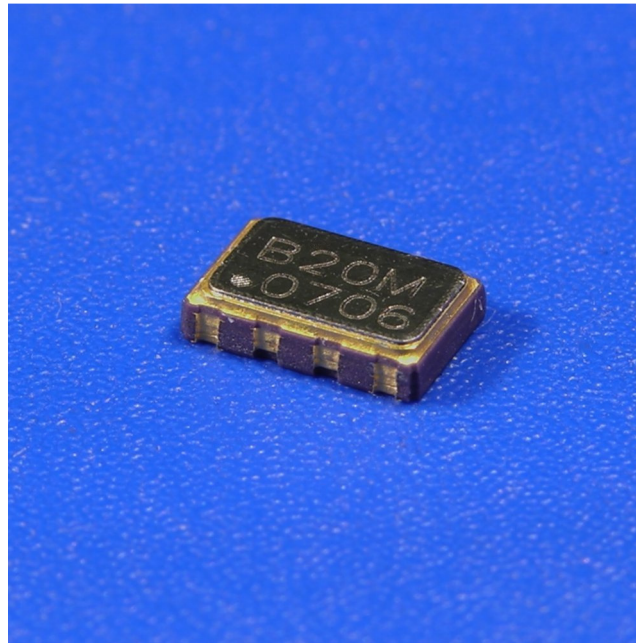


# 3.2 x 5 mm TCVCXO TV105A Series

## Description:

The TV105A Temperature Compensated Voltage Controllable Crystal Oscillator (TCVCXO) Series products provide a wide range of options in temperature stability, operating frequency range, and electronic frequency adjustment in a miniature 3.2 x 5 mm ceramic SMD package.



## Features:

- Available in frequencies from 10 to 52 MHz with 13 MHz, 14.4 MHz, 20 MHz, and other frequencies as standards
- +/-5 to +/- 20 ppm pull range
- Clipped Sine or CMOS output
- Standard 3.2 x 5 mm ceramic SMD package
- Analog Frequency vs. Temperature compensation technique
- Excellent for GPS Applications
- RoHS-6 Lead-free compliant

## Frequency Range, Operating Temperature, and Frequency Stability:

Frequency Range	Operating Temperature	Product Code	Frequency Stability	Product Code
10 to 52 MHz	-20 to +70° C	<b>C</b>	+/- 0.5 ppm	<b>A</b>
	-40 to +85° C	<b>D</b>	+/- 1.0 ppm	<b>B</b>
	0 to +55° C	<b>E</b>	+/- 1.5 ppm	<b>C</b>
	-10 to +60° C	<b>F</b>	+/- 2.0 ppm	<b>D</b>
	-30 to +85° C	<b>G</b>	+/- 2.5 ppm	<b>E</b>

\*\* Not all combinations of frequency stability over temperature available. Consult the factory for your specific requirements.

## Aging: (typical at 10 MHz after 30 days continuous operation)

Frequency	Timeframe	Aging	Product Code
10 MHz	1st Year	+/- 1.0 ppm	<b>N/A</b>

## Phase Noise:

Frequency	Offset	Phase Noise (Typ.)	Product Code
			<b>N/A</b>
10.0 MHz	1 Hz	- 60 dBc/Hz	<b>N/A</b>
	10 Hz	- 85 dBc/Hz	
	100 Hz	-115 dBc/Hz	
	1 KHz	-135 dBc/Hz	
	10 KHz	-148 dBc/Hz	
	100 KHz	-150 dBc/Hz	

### Supply Voltage (Vs):

Power Supply (Vs)	+3.3 Vdc +/-10%	+5.0 Vdc +/-10%
Product Code	<b>C</b>	<b>D</b>

### Current Consumption:

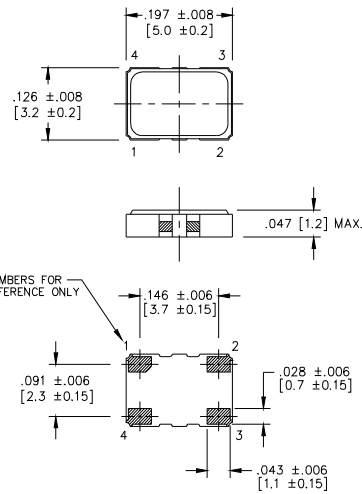
Clipped Sine Wave	
Supply Current	2.5 mA

### Environmental:

Storage Temperature	-55 to +125° C
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### Output Waveform:

	Clipped Sine Wave	HCMOS Output
Product Code	<b>N/A</b>	<b>H</b>
Output Level	0.8 V p-p min.	10% / 90% Vs
Load	10K // 10 pF	15pF



**PIN CONNECTIONS**  
 1. VOLTAGE CONTROL / GROUND  
 2. GROUND  
 3. OUTPUT  
 4. + VDC

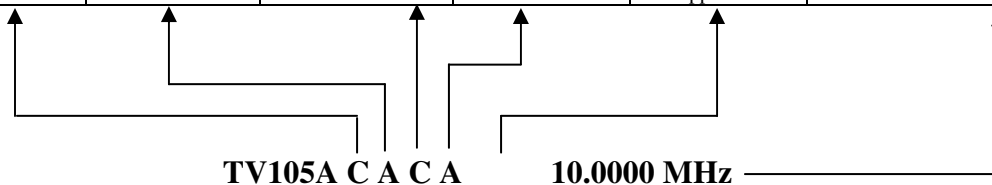
### Pulling Range:

Tuning Range	None(TCXO)	+/-5 ppm	+/-8 ppm	+/-10 ppm	+/-12 ppm	+/-15 ppm	+/-20 ppm
Product Code	<b>T</b> (Pin 1 - Ground)	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>

\*\*Note: Maximum pull available dependent upon required temperature stability

### Ordering Options:

Operating Temperature	Frequency Stability	Supply Voltage	Pulling Range	Output	Operating Frequency
C	A	C	T	N/A	xx.xxxx MHz
D	B	D	A	H	xx.xxxx MHz
E	C		B		xx.xxxx MHz
F	D		C		xx.xxxx MHz
G	E		D		xx.xxxx MHz
			E		xx.xxxx MHz
			F	Leave Blank for Clipped Sine	xx.xxxx MHz



**Product Selection Code (refer to the above example):**

**This part is RoHs compliant, -20 to +70C, +/- 0.50pm, 3.3 volt clipped sine wave with +/- 5 ppm pull, 10MHz operating frequency.**

**\*\* Not all combinations available in this product**