

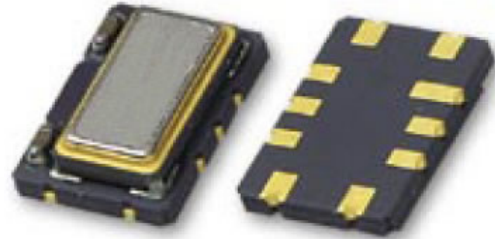
Features

Frequency Range 5 to 26 MHz
7mm x 5mm x 1.85mm ceramic SMD
+/- 4.6 ppm total stability over 20 years
CMOS or clipped sine wave options
Tri-state Enable / Disable Function
+/- 0.37 ppm from -40 to +85 centigrade degree
+/- 0.28 ppm from -20 to +70 centigrade degree

Typical Applications

Base stations
10 G-bit ethernet
SONET
GSM, CDMA, 3G, and 4G cellular

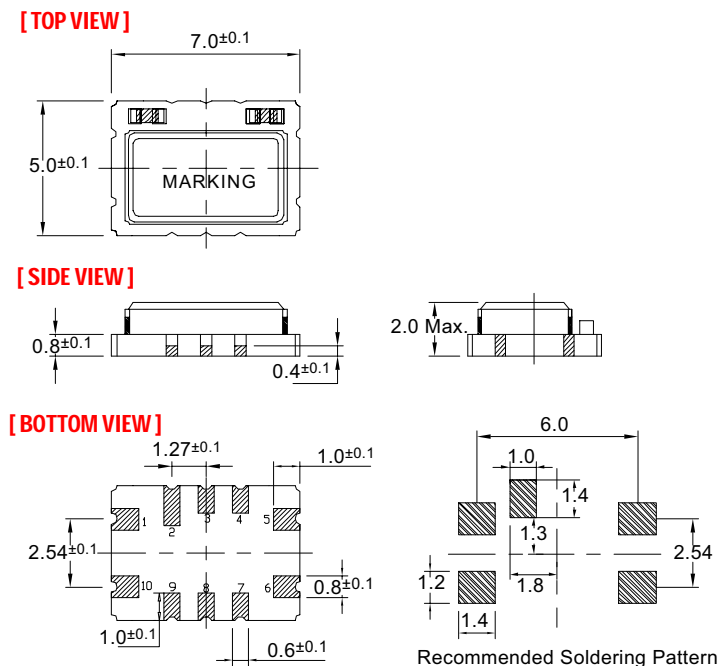
Picture of Part



Description

The VCTCXO3404 family offers low noise compensation techniques combined with aggressive conditioning processes resulting in outstanding long term stability, tightly distributed performance parameters, and superior long term reliability.

Physical Dimensions



Pin Connections

Pad	Function
1	VCON : VC-TCXO NC : TCXO
2	NC
3	NC
4	NC
5	GND
6	CMOS/ Clipped Sinewave Output
7	NC
8	NC
9	Tri-State Control*
10	VDD

Specification

VCTCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f ₀		5		26	MHz	
	Load					15	pF	
	H - level voltage	V _H		0.9Vcc			V	
	L - level voltage	V _L				0.1Vcc	V	
	Rise & Fall time						ns	
	Duty cycle			45		55	%	
Clipped Sine-wave ONLY	Level	L		0.8			pk-pk	
	Load Resistance	RL			10		Kohm	
	Load Capacitance	CL			10		pF	
Power supply								
Voltage		Vcc		3.135	3.300	3.465	V	5.0 V option available
Current consumption		Icc				6.0 3.5	mA	square wave clipped sine wave
Frequency control*								
Control voltage range		Vc		0.5	1.5	2.5	V	Positive tuning slope
Tuning range				+/- 5			ppm	
Vc Input Impedance						100	Kohm	
Frequency stability								
vs. temperature			-40°C to +85°C, ref 25°C	-0.370		+0.370	ppm	
vs. 5% change in supply voltage			ref Vcc typ.	-0.300		+0.300	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			
		Tri-state Output OFF			0.3Vcc			
		Enable / Disable Output ON	0.7Vcc					
Total Tolerance	Over 20 years		Projected after 30 days operation	-4.600		+4.600	ppm	See NOTE 1 on Page 3
Environmental, mechanical conditions.								
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

VCTCXO3404-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 +/- 0.280 ppm
 - b. "1" for -40 °C to +85 °C and +/- 0.370 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

Part Number Example

VCTCXO3404-10.000000-1-1-1

10.000000 MHz Operating Frequency

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

+/- 0.370 ppm Frequency Stability

3.3 volt supply

cmos output

NOTE 1 : Total Frequency Tolerance is inclusive of calibration at 25 °C , change over temperature, change with 5% supply variation, change with 5% load change, change with reflow soldering, and 20 year aging.