TCXO3412
Low G-sensitivity highly stable ruggedized TCXO

Features

Frequency Range 10 to 50 MHz
Rugged 7mm x 5.0mm x 2.0mm SMD
Can withstand 100000 g's of shock
G-sensitivity as low as 0.3 ppb/G
Excellent phase noise

Picture of Part

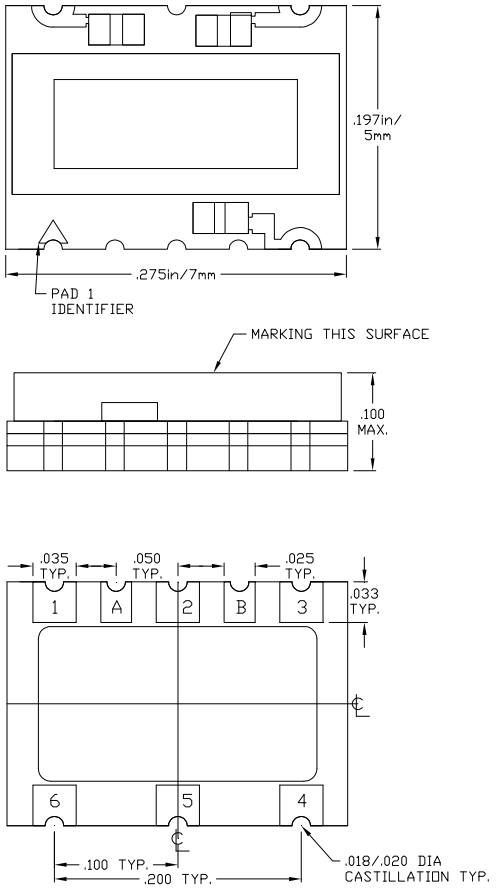
Typical Applications

Satellite Communications, WiMAX, WLAN, Stratum3, Femtocell
Mobile radio
GPS Timing / Synchronization

Description

The TCXO3412 represents a new generation of miniaturized SMD designs Capable of withstanding high shock and vibration along with extreme Acceleration. The 3412 serves as a highly stable low noise reference oscillator for Critical timing applications in harsh environments.

Physical Dimensions



Pin Connections

Pad Connections
1 - EFC
2 - Internal Use Only
3 - 0 V & Case Gnd
4 - Output
5 - Tri-State (enable Hi or float)
6 - VSupply
A - Internal Use Only
B - Internal Use Only

Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		10		50	MHz	
HCMOS compatible option	Load					15	pF	
	H - level voltage	V_H		2.8			V	
	L - level voltage	V_L				0.2	V	
	Rise & Fall time						ns	
	Duty cycle			45	50	55	%	
Clipped Sine-wave option	Level	L					pk-pk	
	Load	RL			10		Kohm	
	Load	CL			10		pF	
Power supply								
Voltage		Vcc		3.15	3.3	3.45	V	
Current consumption		Icc				6 2.0	mA	CMOS Clipped sine wave
Frequency control*								
Control voltage range		Vc		0		3.300	V	Positive tuning slope
Tuning range					+/- 4.0		ppm	
Enable / Disable		Pad 5	No Connect Pad 5 also ENABLE	2.8V Enable		Disable 0.2V		ENABLE means output present on pad 4
Frequency stability								
vs. temperature			-55°C to +95°C, ref 25°C	-2.0		+2.0	ppm	
vs. 5% change in supply voltage			ref Vcc typ.				ppb	
SSB Phase noise **For 10 MHz HCMOS** **Typical**			10 Hz		-95		dBc/Hz	for 10 MHz HCMOS Typical
			100 Hz		-120			
			1 kHz		-140			
			10 kHz		-150			
			100 kHz		-150			
Allan variance			1 s				e-12	
Aging			Projected aging after 30 days operation					
	Per Year					+/-1.0	ppm	
Environmental, mechanical conditions.								
Operating temperature range			**-55°C to +95°C maximum range available that is standard**					
Storage temperature range			**-55°C to +105°C**					
Mechanical shock			Per MIL-STD 202G , Method 213, Condition F					
Vibration			Per MIL-STD 202G , Method 214, Condition I-F					

Ordering Information

TCXO3412- XX.XXXXXX-W-Y

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 -10 °C to +60 °C and +/- 0.300 ppm
    b. " 1 " for -20 °C to +70 °C and +/- 0.500 ppm
    c. " 2 " for -20 °C to +70 °C and +/- 0.500 ppm
    d. " 3 " for -40 °C to +85 °C and +/- 0.500 ppm
    e. " 4 " for -40 °C to +85 °C and +/- 1.000 ppm
    f. " 5 " for -55 °C to +95 °C and +/- 2.000 ppm
    g. " 6 " for -20 °C to +70 °C and +/- 0.280 ppm (10 and 20 MHz only)
    h. " 7 " for -40 °C to +85 °C and +/- 0.280 ppm (10 and 20 MHz only)
3. Field " Y " is clipped sine wave output versus square wave output
    a. " 0 " for clipped sine wave output
    b. " 1 " for square wave output

Part Number Example

TCXO3412-10.000000-5-1

10.000000 MHz Operating Frequency

Operating Temperature of -55 °C to +95 °C

+/- 2.000 ppm Frequency Stability

cmos output

Product Performance Graphs