

Features

Wide Frequency Range 20 to 400 MHz
High Reliability Package Enclosure
Mechanical or Electrical Frequency Adj.
AC-coupled 50 ohm sinewave output

Typical Applications

Base Stations. Telecommunications Networks
SATCOM, Test Equipment

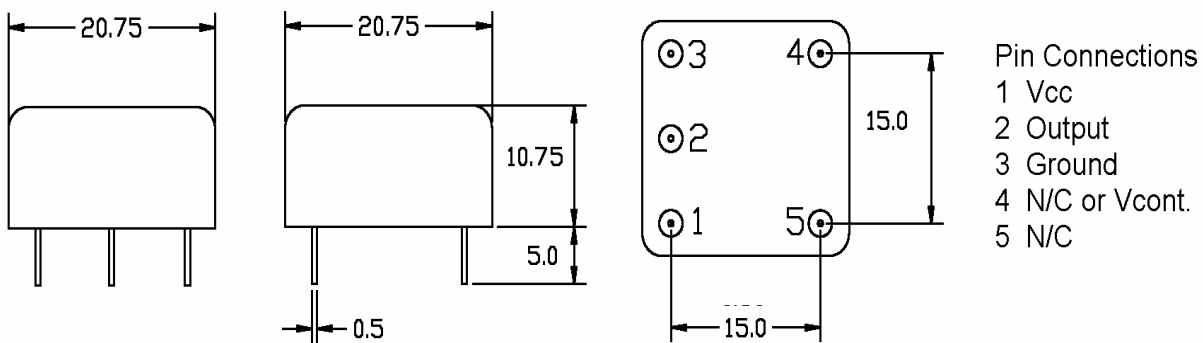
Picture of Part



Description

The TCXO3414 family offers a wide operating frequency range for a wide variety of applications where harsh environments may be encountered. The design layout allows for either electronic or mechanical frequency adjust options. For best phase noise performance the 3414 is designed to provide an ac-coupled 50 ohm sine wave output.

Physical Dimensions & Pin Connections



Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		20		400	MHz	
Sine wave AC-coupled	Load			45	50	55	ohms	
	Power			0		5	dBm	
	Harmonics					-15	dBc	
	Sub-harmonics					-30	dBc	
	Spurious					-65	dBc	
Power supply								
Voltage	V_{cc}			4.75	5.00	5.25	V	3.3V option available
Current consumption	I_{cc}			10		30	mA	Dependent upon nominal frequency
Frequency control*								
Control voltage range (Electronic Adjust Option)	V_c			0.5		4.5	V	For 5V supply option
Tuning range				+/- 5			ppm	
Mechanical Adjust Option				2.0			ppm	2.0 ppm minimum total trimmer mechanical range
Frequency stability								
vs. temperature			-40°C to +85°C, ref 25°C	-2.000		+2.000	ppm	
vs. 5% change in supply voltage			ref V_{cc} typ.	-0.300		+0.300	ppm	
Calibration Tolerance at 25C				-1.000		+1.000	ppm	
SSB Phase noise @ 20 MHz (50-ohm sine) Typical			10 Hz			-95	dBc/Hz	@ 20 MHz (50-ohm sine) Typical
			100 Hz			-120		
			1 kHz			-140		
			10 kHz			-145		
			100 kHz			-145		
Aging	Per Year		Projected yearly aging after 30 days operation	-1.0		+1.0	ppm	
Environmental, mechanical conditions.								
Operating temperature range				-40°C to +85°C maximum range available that is standard				
Storage temperature range				-40°C to +85°C				
Mechanical shock				MIL-STD 202 ; Method 213 ; Test Condition C				
Vibration				MIL-STD 202 ; Method 201 , 204, and 214				

Ordering Information

TCXO3414-XXX.XXXXXX-W-Y-Z

1. Field "XXX.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 +/- 1.000 ppm
 - b. "1" for -40°C to +85°C and +/- 2.000 ppm
3. Field "Y" is for Supply Voltage Choice :
 - a. "0" for 5.0 V supply
 - b. "1" for 3.3 V supply
4. Field "Z" is for Electrical or Mechanical Frequency Adjust :
 - a. "0" for Electrical Adjust
 - b. "1" for Mechanical Adjust

Part Number Example

TCXO3414-100.000000-0-0-0
100.000000 MHz Operating Frequency
Operating Temperature of -20°C to +70°C
+/- 1.000 ppm Frequency Stability
5.0 V supply
Electrical Frequency Adjust