

WTC-1409A Series TCXO
Product Data Sheet

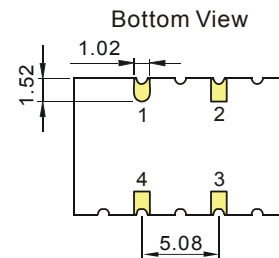
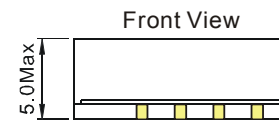
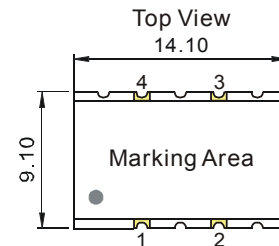
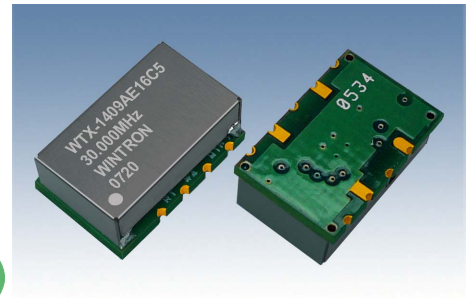
INNOVATION BEYOND IMAGINATION

Features

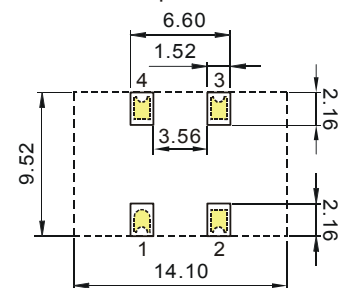
- SMD Package With Low Height(≤5.0mm)
- Wide Frequency Range(2.0MHz to 160MHz)
- Excellent Stability, Wide Operating Temp. Range
- Extremely Low Power Consumption
- Very Short Start-up Time(10ms Max)
- Low Aging(1×10^{-8} /Day, 1×10^{-6} /Year)
- Voltage Control Function Optional
- Very Low Phase Noise
- HCMOS/TTL or Clipped Sinewave Output
- Other Package Versions Available
- Reflow Solderable
- Other Custom Designs Available upon Request

Applications

- Telecommunications, Data Communications
- SARSAT Beacons, Microwave Sources, Synthesizers
- Navigation, Space, Wireless communications
- Battery Powered Systems and Equipment, Instrumentation



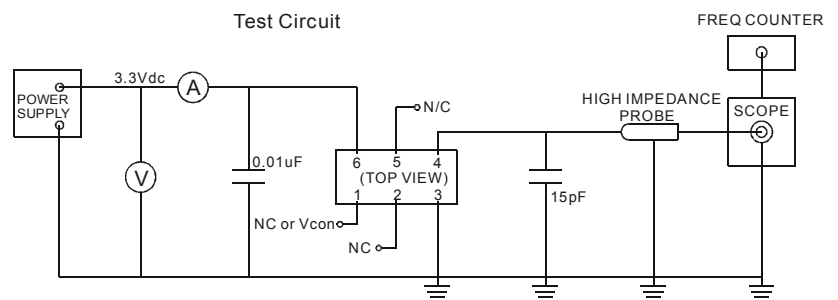
Suggested Pad Layout <Top View>



Unit:mm

Pad Connections:

Pad Connections:	
Pad No	CONNECTION
Pad #1	NC or Vcon
Pad #2	NC
Pad #3	Ground
Pad #4	Output
Pad #5	NC
Pad #6	Vcc



Specification

Parameter	Symb	Condition	Min.	Typ.	Max.	Unit	Note
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Absolute Maximum Ratings

Input Break Down Voltage	Vcc		-0.5		+7.0	V	
StorageTemp.	Ts		-55		+125	°C	
Contr.Voltage	Vc		-1.0		+6.0	V	

Electrical

Frequency Range	F		2.0		160	MHz		
Nominal Freq.	Fn			10.000		MHz	Custom	
Frequency Calibr.	ΔF/F	At 25°C	±0.2		±1.0	ppm		
Frequency Stability	ΔF/F	Vs. temp. range1	±0.1		±2.0	ppm	Note 1	
		Vs. temp. range2				ppm	NA	
		Vs. supply variation			±0.1	ppm/vcc±5%		
		Vs. load variation			±0.1	ppm/load±5%		
Operating Temp.	To		-40		+85	°C		
Aging		Per day Per year			1E-8 1E-6		After 30 days	
Output Waveform			Clipped Sinewave					
Output Level		At 5.0V Vcc	1.0			Vp-p		
		At 3.3V Vcc	0.8					
Load				10/10		KΩ/pF		
Duty Cycle		At Vcc/2	45		55	%	HCMOS/TTL	
Rise/Fall time	Tr/Tf				3	ns	HCMOS/TTL	
SSB Phase Noise		10Hz / 1Hz			-90/-60	dBc/Hz		
		1KHz / 100Hz			-140/-120			
		100KHz / 10KHz			-150/-145			
Supply Voltage	Vcc		4.75	5.0	5.25	V	3.3V±5% Optional	
Supply Current	Icc	Clipped Sinewave			2.0	mA	At 5.0V Supply	
		HCMOS/TTL			20			
Start-up Time		To ±0.5ppm Calibr.			10	ms	At 25°C	
Frequency Adjustment	Vcon	EFC Voltage	0.5	2.5	4.5	V	At 5.0V	
		EFC Range	±5			ppm	Custom	
		Deviation Slope	Positive					
		Input impedance	100			KΩ		
Pad Out		Pad #1- NC or Vcon, Pad #2- NC, Pad #3- GND, Pad #4- Output, Pad #5- NC, Pad #6- Vcc						
Package		SMD(14.1×9.1×5.0)				mm		

All parameters for 10.000MHz

Environmental and Mechanical

Temperaure Cycle	Per MIL-STD-883E, Method 1010.7, Cond. B(-55°C to +125°C, 10-100 Cycles)
Mechanical Shock	Per MIL-STD-883E, Method 2002.4, Cond .B, 50G, 11ms, 3 cycles each plane
Vibration	Per MIL-STD-883E, Method 2007.3, Cond .A,10G, 30Hz to 2000Hz, 6 hours
Solvent Resistance	Per MIL-STD-883E, Method 2015.8
Lead Integrity	Per MIL-STD-883E, Method 2004
Leak Testing	Per MIL-STD-883E, Method 1014
Solderability	Per MIL-STD-883E, Method 2003
Soldering Condition	Leads temperature 260°C for 10s max,230°C for 30s max, SMD profile

Note:

1.Freq. stability is temperature range dependent.

Creating a Part Number

