

TCXO3179 TCXO

Features

- SMD Package With Low Height($\leq 2.0\text{mm}$)
- Wide Frequency Range(2MHz to 50MHz)
- Excellent Stability up to $\pm 2 \times 10^{-7}$,
Wide Operating Temperature Range
up to -55°C to $+85^{\circ}\text{C}$
- Extremely Low Power Consumption
($< 2.0\text{mA}$ With Clipped Sinewave)
- Very Short Start-up Time(10ms Max)
- Low Aging($1 \times 10^{-8}/\text{Day}, 1 \times 10^{-6}/\text{Year}$)
- Voltage Control Function Optional
- Very Low Phase Noise($-150\text{dBc}/\text{Hz}$ TYP At floor)
- HCMOS/TTL or Clipped Sinewave Output
- Other Package Versions Available
- Reflow Solderable
- Other Custom Designs Available
upon Request

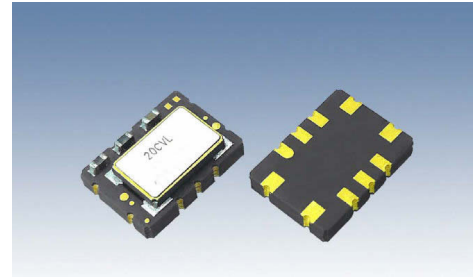
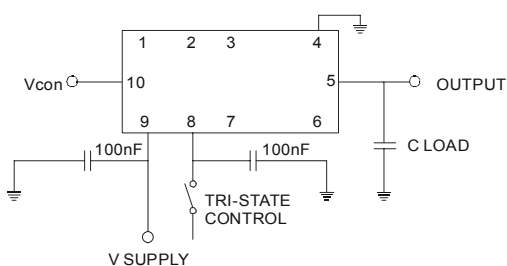
Applications

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

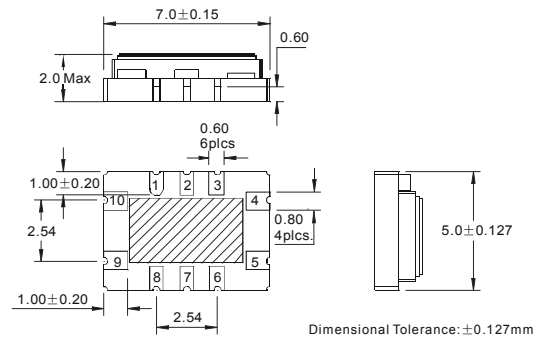
Pad Function

Pad Functions:	
Pad No	FUNCTION
Pad #4	GND
Pad #5	RF Output
Pad #9	Vcc
Pad #10	Vcon/NC
Other	NC

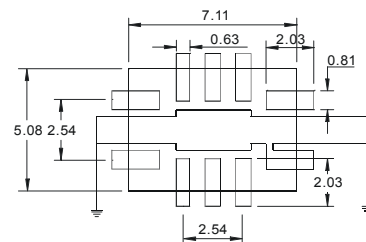
TEST CIRCUIT:



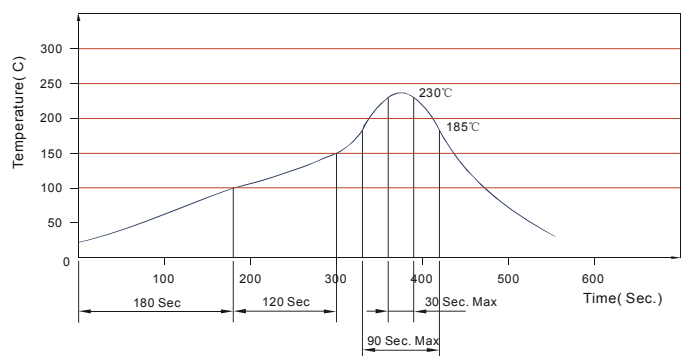
PACKAGE OUTLINE



SUGGESTED PAD LAYOUT



Solder Profile



Specification

Parameter	Symb	Condition	Min.	Typ.	Max.	Unit	Note
<i>Absolute Maximum Ratings</i>							
Input Break Down Voltage	V _{cc}		-0.5		7.0	V	
StorageTemp.	T _s		-55		85	°C	
Contr.Voltage	V _c		-1.0		6.0	V	

Electrical

Frequency Range	F		2.0		50	MHz		
Nominal Freq.	F _n		10.000			MHz	Custom	
Frequency Calibr.	ΔF/F	At 25°C			±0.5	ppm		
Frequency Stability	ΔF/F	Vs. temp. range1	±0.2		±1.0	ppm	Note 1	
		Vs. temp. range2				ppm	NA	
		Vs. supply variation			±0.1	ppm/vcc±5%		
		Vs. load variation			±0.1	ppm/load±10%		
Operating Temp.	T _o		-40		+85	°C		
Aging		Per day Per year			1E- 8 1E -6		After 30 days	
Output Waveform			Clipped SineWave				HCMOS/TTL Opt.	
Output Level		At 5.0V V _{cc} At 3.3V V _{cc}	1.0 0.8			V _{p-p}		
Load				10/10		KΩ/pF		
Duty Cycle		At V _{cc} /2	45		55	%	HCMOS/TTL	
Rise/Fall time	Tr/Tf				3	ns	HCMOS/TTL	
SSB Phase Noise		10Hz / 1Hz 1KHz / 100Hz 100KHz / 10KHz			-90/-60 -140/-120 -150/-145	dBc/Hz		
Supply Voltage	V _{cc}		4.75	5.0	5.25	V	3.0V to 5.0V Optional	
Supply Current	I _{cc}	Clipped sinewave HCMOS/TTL			2.0 10	mA	At 5.0V Supply	
Start-up Time		To ± 0.5ppm Calibr.			10	ms	At 25°C	
Frequency Adjustment	V _c	EFC Voltage	0.5	2.5	4.5	V	At 5.0V	
		EFC Range	±3			ppm	Custom	
		Deviation Slope	Positive					
		EFC input impedance	10				KΩ	
Pad Out		Pad #4- GND; Pad #5- RF Out; Pad #9- V _{cc} ; Pad #10- Voltage,Control/NC; Others- NC						
Package		SMD(7.0×5.0×2.0)				mm		

All parameters for 10.000 MHz

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 500Hz, 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.