



### Features and Benefits

- Frequency range: 40MHz
- Supply voltage: 5.0V
- Steady current: 250mA Max
- Output waveform: Sinewave
- Frequency stability vs. operating temperature:  $\pm 2$ ppb
- Aging:  $\pm 0.1$ ppm per year
- Operating temperature:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Size: 20.2x20.2x14.1mm

### Typical Applications

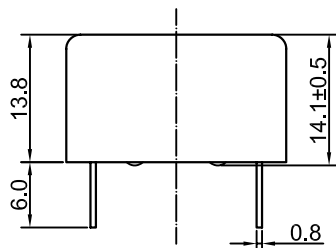
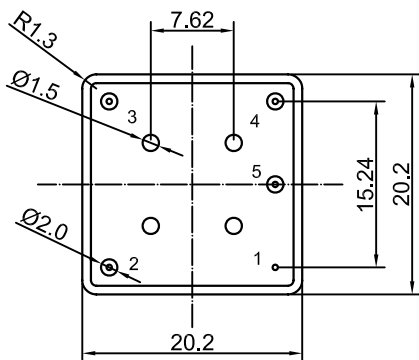
- Portable Wireless Communications Mobile
- Test equipment
- Synthesizers
- Battery Powered Application

### Description

OCXO2020CV-40MHz-A-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

### Mechanical Drawing & Pin Connections

Drawing No: MD220022-1



#### Pin Connections

Pin	Signal
1	GND
2	RF Out
3	+V Supply
4	Electrical tuning
5	Reference voltage

Unit in mm  
1mm = 0.0394 inches



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f <sub>0</sub>			40		MHz	
<b>RF Output</b>							
Signal Waveform			Sinewave				
Level			+7.0			dBm	note
Harmonics					-25	dBc	
Load			45	50	55	ohm	
Sub-harmonics level		f <sub>SH</sub> = f <sub>0</sub> ±(n* f <sub>0</sub> /5) n=1,2,3...			-40	dBc	
<b>Power Supply</b>							
Reference Voltage	V <sub>ref</sub>		4.0	4.2	4.3	V	
Output resistance of V <sub>ref</sub>				91		ohm	
Supply Voltage	V <sub>CC</sub>		4.75	5.0	5.25	V	
Warm-up current		V <sub>CC</sub> =5.0V	700		850	mA	
Continuous current		at +25°C, V <sub>CC</sub> =5.0V			250	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 15 min			180	sec	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)	(f <sub>L</sub> -f)/f	V <sub>c</sub> =0 V			-0.4	ppm	note
	(f-f)/f	V <sub>c</sub> =V <sub>c0</sub>		0		ppm	
	(f <sub>H</sub> -f)/f	V <sub>c</sub> =V <sub>ref</sub>	+0.4			ppm	note
EFC voltage	V <sub>c</sub>		0		4.3	V	
Input impedance				11		kohm	
Preset control voltage	V <sub>C0</sub>	disconnected V <sub>c</sub> pin	1.8	2.1	2.4	V	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		ref +25°C			±2	ppb	note
Initial Tolerance @ +25°C	(f-f <sub>0</sub> )/f <sub>0</sub>	V <sub>c</sub> = V <sub>C0</sub>	-0.1		+0.1	ppm	
Versus supply voltage		ref V <sub>CC</sub> typ.			±0.7	ppb	
Versus load		5% change			±0.7	ppb	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		10Hz		-100		dBc/Hz	
		100Hz		-130			
		1KHz		-145			
		10KHz		-150			
		100KHz		-155			
Aging Per Day		After 30 days of operation			±1	ppb	
Aging 1 <sup>st</sup> Year					±0.1	ppm	
<b>Maximum ratings, environmental, mechanical conditions</b>							
Operating temperature range	-40°C to +85°C						
Storage temperature range	-60°C to +85°C						
Power voltage	-0.5 to 6.0 V						
Control voltage	-1.0 to 6.0 V						
Air flow velocity	0.5 m/s maximum						
Humidity	Hermetically sealed						
Mechanical shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 10G to 2000Hz						
Soldering conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)						
Washing conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						

Note: Included in the test data