



### Features and Benefits

Frequency range: 100MHz  
Supply voltage: 5.0V  
Steady current: 45mA Max  
Output waveform: Sinewave  
Frequency stability vs. operating temperature: ±10ppb  
Aging: ±0.2ppm per year  
Operating temperature: -40°C to +85°C  
Size: 20.5x15.3x11.6mm

### Typical Applications

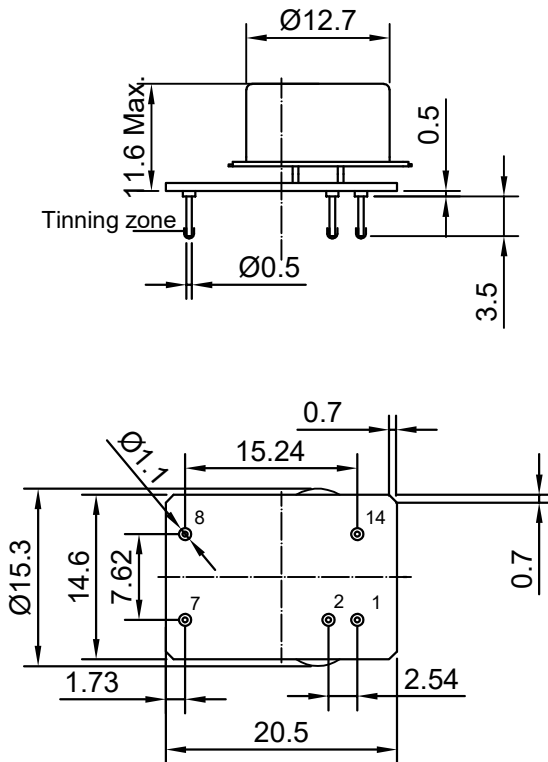
Portable Wireless Communications Mobile  
Test equipment  
Synthesizers  
Battery Powered Application

### Description

OCXO3321AW02-100MHz-657221 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:** MD240062-1



Pin	Signal
1	Control voltage
2	Reference voltage
7	GND
8	Output
14	Supply voltage

Unit in mm  
1mm = 0.0394 inches

We reserves the right to reduce the external dimensions without changing of connecting dimensions.



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f <sub>0</sub>			100		MHz	
<b>RF Output</b>							
Signal Waveform			Sinewave				
Level			+5.0	+7.0		dBm	+
Load			45	50	55	ohm	
Harmonics level					-25	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	140		220	mA	
Continuous current		at +25°C, V <sub>cc</sub> =5.0V		35	45	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 1h		90	120	sec	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)	(f <sub>i</sub> -f)/f	V <sub>c</sub> =0 V			-1	ppm	+
	(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>	+1			ppm	+
EFC voltage	V <sub>c</sub>		0		4.2	V	
Input impedance				11kohm//5pF			
Input BW		-3dB level		160		Hz	
Preset control voltage	V <sub>co</sub>	disconnected V <sub>c</sub> pin	1.9	2.1	2.3	V	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		ref +25°C			±10	ppb	+
Initial Tolerance @+25°C	(f-f <sub>0</sub> )/f <sub>0</sub>	V <sub>c</sub> = V <sub>co</sub>	-0.2		+0.2	ppm	+
Versus supply voltage		ref V <sub>cc</sub> typ.			±2	ppb	
Versus load		5% change			±2	ppb	
Allan deviation		1s, 100KHz BW		20		e-12	
SSB Phase noise (static values are for reference only and are subject to change.)		10Hz		-95		dBc/Hz	
		100Hz		-125			
		1KHz		-153			
		10KHz		-165			
		100KHz		-168			
Aging Per Day		After 30 days of operation			±2.0	ppb	
Aging 1 <sup>st</sup> Year					±0.2	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	Non-condensing 95%						
Mechanical shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 5G 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