



### Features and Benefits

- Frequency range: 100MHz
- Supply voltage: 5.0V
- Steady current: 50mA Max
- Output waveform: Sinewave
- Frequency stability vs. operating temperature:  $\pm 100$ ppb
- Aging:  $\pm 0.2$ ppm per year
- Operating temperature:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Size: 16x15.24x9.5mm

### Typical Applications

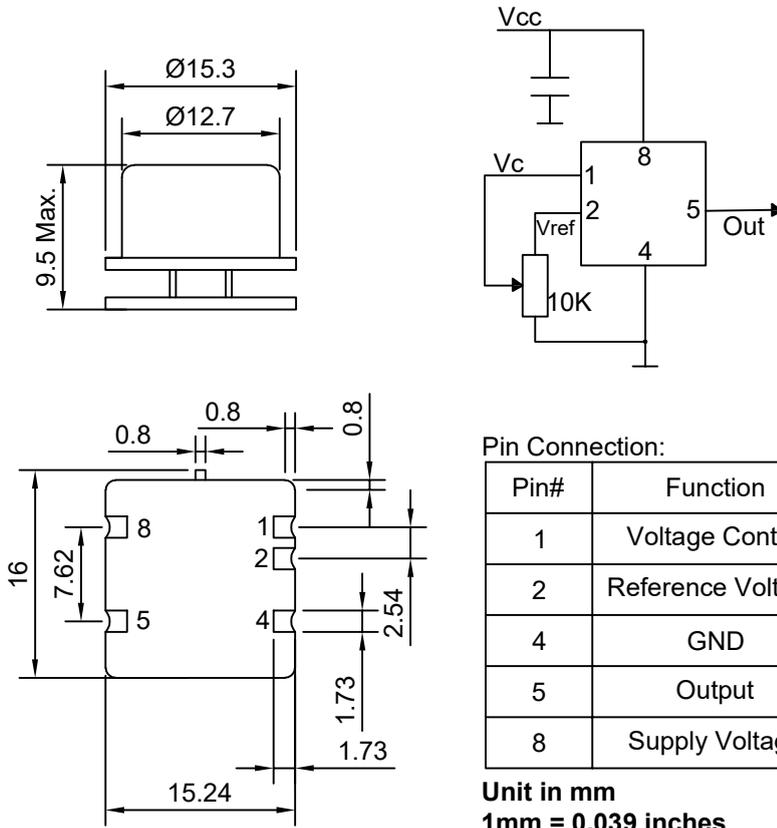
- Portable Wireless Communications Mobile
- Test equipment
- Synthesizers
- Battery Powered Application

### Description

OCXO3313C-100MHz-687222 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: MD230025-1



Pin Connection:

Pin#	Function
1	Voltage Control
2	Reference Voltage
4	GND
5	Output
8	Supply Voltage

Unit in mm  
1mm = 0.039 inches



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	$f_0$			100		MHz	
<b>RF Output</b>							
Signal Waveform			Sinewave				
Level			+7.0			dBm	
Harmonics					-25	dBc	
Load			45	50	55	ohm	
Spurious level		$f_s=f_0\pm 2\text{MHz}$			-120	dBc	
<b>Power Supply</b>							
Reference Voltage	Vref		4.1	4.2	4.3	V	
Output resistance of Vref				91		ohm	
Supply Voltage	Vcc		4.75	5.0	5.25	V	
Warm-up current		$V_{CC}=5.0\text{V}$	130		240	mA	
Continuous current		at +25°C, $V_{CC}=5.0\text{V}$		35	50	mA	
Frequency warm-up time		to $df/f=1e-7$ at +25°C ref at 15min		60	90	sec	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	$V_C=0\text{V}$			-1	ppm	
	$(f-f)/f$	$V_C=V_{C0}$		0		ppm	
	$(f_H-f)/f$	$V_C=V_{ref}$	+1			ppm	
EFC voltage	$V_C$		0		4.2	V	
Input impedance				11kohm//5pF			
Input BW		-3dB level		160		Hz	
Preset control voltage	$V_{C0}$	disconnected Vc pin	1.9	2.1	2.3	V	
<b>Frequency Stability</b>							
Versus Operating Temperature Range					±100	ppb	ref +25°C
Initial Tolerance @ +25°C	$(f-f_0)/f_0$	$V_C=V_{C0}$	-0.2		+0.2	ppm	
Versus supply voltage		ref $V_{CC}$ typ.			±5	ppb	
Versus load		5% change			±5	ppb	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		10Hz		-95		dBc/Hz	
		100Hz		-125		dBc/Hz	
		1KHz		-145		dBc/Hz	
		10KHz			-165	dBc/Hz	
Aging Per Day		After 30 days of operation			±2	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 9.0 V						
Air flow velocity	0.5 m/s maximum						
Humidity	Non-condensing 95%						
Mechanical shock	Per MIL-STD-202, 300G, 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						