



### Features and Benefits

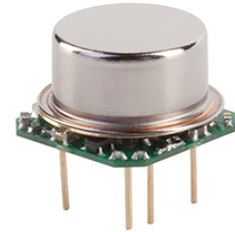
Frequency range: 100MHz  
Supply voltage: 3.3V  
Steady current: 60mA Max.  
Output waveform: HCMOS  
Frequency stability vs. operating temperature:  $\pm 50$ ppb  
Aging:  $\pm 3.0$ ppb/day  
Phase noise@100KHz: -163dBc/Hz  
Operating temperature: 0°C to +50°C  
Size: 16x15.3x9.5mm

### Typical Applications

Portable and Low Power Wireless  
Mobile Test Equipment  
Battery Powered Applications  
Beacons and Rescue Systems

### Description

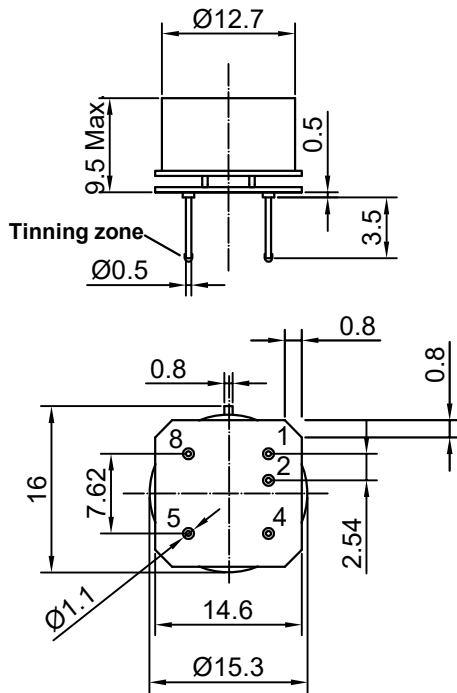
The OCXO3313CV-100MHz-B-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.



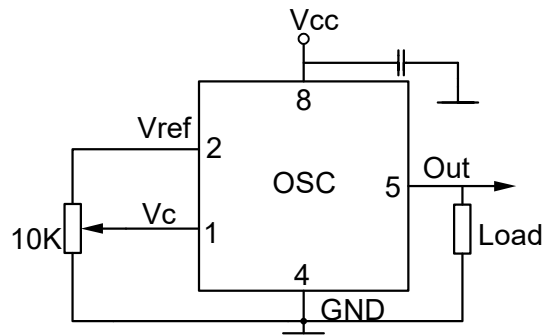
### Mechanical Drawing & Pin Connections

**Drawing No:** MD230038-1

#### Physical dimensions



#### Schematic connections



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

Unit in mm  
1mm = 0.0394 inches



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	$f_0$			100		MHz	
Initial Tolerance	$(f-f_0)/f_0$	@+25°C, $V_c=V_{c0}$	-0.2		0.2	ppm	+
<b>RF Output</b>							
Waveform			HCMOS				
Load			10			Kohm	
					5	pF	
Output High			2.4			V	
Output Low					0.4	V	
Duty Cycle			45	50	55	%	
<b>Power Supply</b>							
Voltage	$V_{cc}$		3.15	3.3	3.45	V	
Power Consumption		Warm-up	130		240	mA	$V_{cc}=3.3V$
		Steady state, @+25°C		35	60	mA	$V_{cc}=3.3V$
Warm-up Time		@+25°C, to $df/f=1e-7$		60	90	s	Ref. to freq. after 15min.
<b>Frequency Control</b>							
Input Impedance	$R_{in}$			11		KOhm	
	$C_{in}$			5		pF	
Input BW		-3db level		160		Hz	
Control Voltage Range	$V_c$		0		2.8	V	
Preset Control Voltage	$V_{c0}$	Disconnected $V_c$ Pin	1.2	1.4	1.6	V	
Tuning Range	$(f_L-f)/f$	$V_c=0V$			-0.8	ppm	+
	$(f-f)/f$	$V_c=V_{c0}$		0		ppm	
	$(f_H-f)/f$	$V_c=V_{ref}$	0.8			ppm	+
Output Resistance of $V_{ref}$				91		Ohm	
Reference Voltage	$V_{ref}$		2.7	2.8	3.0	V	
<b>Frequency Stability</b>							
Versus Temperature		ref 25°C			±50	ppb	+
Versus Supply Voltage		Ref $V_{cc}$ typ.			±5.0	ppb	
Versus Load		5% change			±5.0	ppb	
Aging	Per day	After 30 days of operation			±3.0	ppb	
	First Year				±0.3	ppm	
SSB Phase noise (Static Values are for reference only and are subject to change)		10 Hz		-95		dBc/Hz	
		100 Hz		-125			
		1 KHz		-150			
		10 KHz		-160			
		100 KHz		-163			
<b>Environmental Conditions</b>							
Operating Temperature Range		0°C to +50°C					
Storage Temperature range		-60°C to +85 °C					
Air Flow Velocity		0.5m/s maximum					
Humidity		Non-condensing 95%					
Mechanical Shock		Per MIL-STD-202, 500G, 11ms					
Vibration		Per MIL-STD-202, 10G, to 2000 Hz					
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