



### Features and Benefits

Frequency range: 100MHz  
Supply voltage: 5.0V  
Steady current: 40mA Max.  
Output waveform: Sine  
Frequency stability vs. operating temperature:  $\pm 30$ ppb  
Aging:  $\pm 2.0$ ppb/day  
Phase noise@100KHz: -168dBc/Hz  
Operating temperature: -40°C to +85°C  
Size: 16x15.24x11.6mm

### Typical Applications

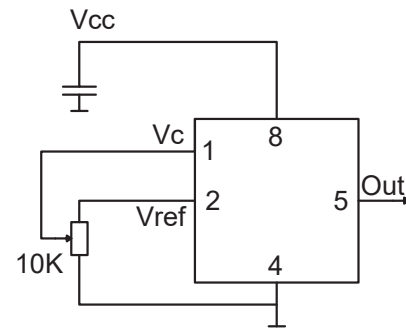
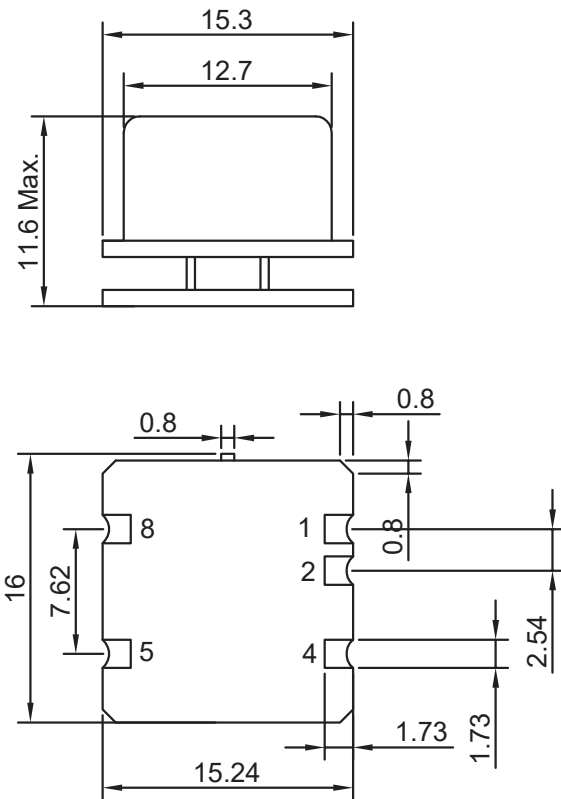
Portable and Low Power Wireless  
Mobile Test Equipment  
Battery Powered Applications  
Beacons and Rescue Systems

### Description

The OCXO3318AW-100MHz-2-6-5-7-2-2 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: **MD220019-1**



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			Sine				
Level			+7			dBm	+
Harmonics Level					-25	dBc	
Load	$R_L$		45	50	55	Ohm	
<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		4.2	V	
Preset Control Voltage	$V_{c0}$	Disconnected $V_c$ Pin	1.9	2.1	2.3	V	
Tuning Range	$(f_L-f)/f$	$V_c=0V$			-1.0	ppm	+
	$(f-f)/f$	$V_c=V_{c0}$	0			ppm	
	$(f_H-f)/f$	$V_c=V_{ref}$	1.0			ppm	+
Output Resistance of $V_{ref}$				91		Ohm	
Reference Voltage	$V_{ref}$		4.1	4.2	4.3	V	
<b>Power Supply</b>							
Voltage	$V_{cc}$		4.75	5.0	5.25	V	
Power Consumption		Warm-up		180	220	mA	
		Steady-state, @+25°C		30	40	mA	
Warm-up Time	$T_F$	@+25°C, to $df/f=1e-7$		90	120	s	Ref. to freq. after 15min. of operation
<b>Frequency Stability</b>							
Versus Temperature		ref 25°C			±30	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			±2.0	ppb	
	First Year				±0.2	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		-153			
		10 KHz		-165			
		100 KHz		-168			
<b>Environmental Conditions</b>							
Operating Temperature Range	-40°C to +85°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, 30G, 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