



**Features and Benefits**

- Low power consumption(up to 180mW at +25°C)
- High frequency stability(up to ±50ppb over -40°C to +55°C)
- Very low phase-noise level (-172dBc/Hz, floor)
- Outstanding fast warming-up (up to 30s)
- Low aging up to 0.5 ppb / day
- Miniature DIP8 sizes

**Typical Applications**

- Mobile Test Equipment
- Portable Wireless Communication
- Battery Powered Applications
- Beacon and Rescue Systems

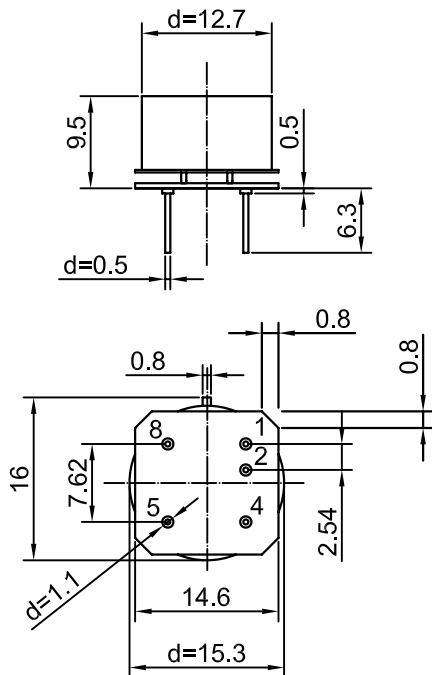
**Description**

OCXO3312C-10MHz-C-V offers state-of-the-art design which allows low power consumption and fast warm-up time, along with high frequency stability and low phase-noise, all within a compact package.

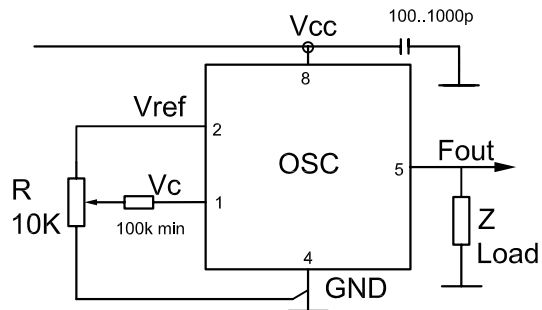
**Mechanical Drawing & Pin Connections**

Drawing No: MD170001-2

**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.		
Nominal Frequency	$F_{nom}$			10		MHz	
Output Waveform			HCMOS				
Output Load			10		15/5	kOhm pF	
H-level Voltage	$V_H$	$V_{CC} = 3.3V$	2.4			V	
L-level Voltage	$V_L$				0.4	V	
Duty Cycle			45		55	%	
Rise / Fall Time					10/3	ns	
Sub-harmonics Level			none				
<b>Power Supply</b>							
Voltage	$V_{CC}$		3.15	3.30	3.45	V	
Power Consumption		Warm-up state			1200	mW	10 Mhz, -40°C to +85°C
		Steady-state, +25°C		180			
Turn-on Power				700		mW	
Warm-up Time:	$T_{up}$	At +25°C to $\Delta f/f = 1e-8$ At +25°C to $\Delta f/f = 1e-7$	30	120 60		sec	ref. to frequency after 15 min work.
<b>Frequency Control</b>							
Control Voltage range	$V_c$		0		2.8	V	
Tuning Range		Compliance with 10 years of aging	$\pm 0.3$	$\pm 1.0$		ppm	Positive slope
Reference Voltage	$V_{ref}$		2.7	2.8	2.9	V	
<b>Frequency Stability</b>							
Initial Tolerance	$(f-f_0)/f_0$	+25°C, $V_c = 0.5 \cdot V_{ref}$		$\pm 0.1$		ppm	
Versus Temperature		ref 25°C, air flow 0.5 m/s max		$\pm 50$		ppb	
Versus Supply Voltage		Ref $V_{CCtyp}$		$\pm 2$		ppb	
Versus G - sensitivity		Worst direction, 0 – 1 kHz vibration BW	$\pm 0.3$		$\pm 1.0$	ppb/G	Consult DEI for 0-2 kHz BW
Retrace		24h work after 24h off			$\pm 10$	ppb	
SSB Phase noise		1 Hz			-90	dBc/Hz	
		10 Hz		-125	<-120		
		100 Hz		-145	<-140		
		1 KHz		-155	<-150		
		10 KHz			<-165		
Allan Variance		1s	5		30	e-12	
Aging Per day		After 30 days of operation		$\pm 0.5$		ppb	
<b>Environmental Conditions</b>							
Operating temperature range	-40°C to +55°C						
Storage temperature range	-60°C to +85°C						
Airflow Velocity	0.5 m/s maximum						
Power Voltage	-0.5V to $V_{CC} + 20\%$						
Control Voltage	-0.5V to 6V						
Humidity	Non-condensing 95%						
Mechanical Shock	Per MIL-STD-202, 30G half sine pulse, 11ms						
Vibration	Per MIL-STD-202, 10G swept sine 10 to 2000 Hz						
Soldering Condition	Hand solder only – not reflow compatible 260°C 10s (on pins)						
Washing Condition	Washing with water or alcohol based detergent allowed only with final enough drying stage						