



Features and Benefits

- Miniature DIP8 sizes
- Very low power consumption (up to 130mW at +25°C)
- High frequency stability (up to ±50 ppb over -40°C +85°C)
- Very fast warm-up time (up to 30s)
- Low phase-noise level (-172dBc/Hz, floor)
- Aging as good as +/- 0.1 ppb/day upon request

Typical Applications

- Portable Wireless Communications
- Mobile Test Equipment
- Beacons & Rescue Systems+
- Battery Powered Applications

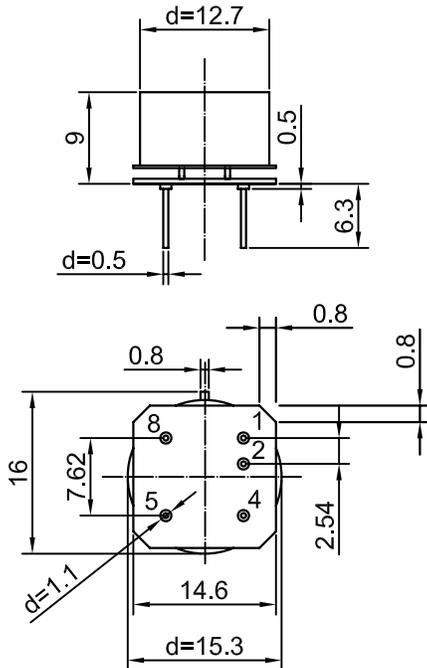
Description

The OCXO3321C series ovenized oscillator employs a direct heated crystal process which delivers very fast warm-up time, excellent phase noise and frequency long term stability in a very small industry-standard package. The OCXO3312C is excellent solution for various portable and / or battery fed applications with elevated requirements to frequency stability and phase-noise of the OCXO.

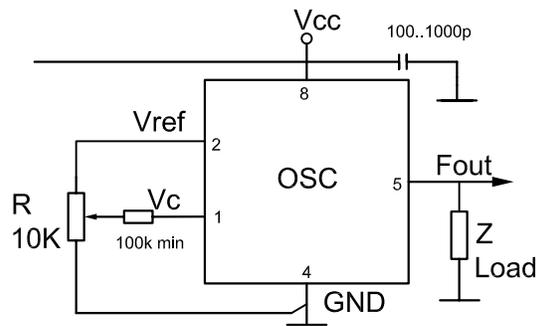
Mechanical Drawing & Pin Connections

Drawing No:MD170001-1

Physical dimensions



Schematic connections



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

Unit : mm
1mm=0.0394inch



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_0			10		MHz	
Initial Tolerance	$(f-f_0)/f_0$	+25°C, $V_C=0.5*V_{ref}$		±0.1		ppm	
RF Output							
Sine Wave	Level	L	$V_{cc}=5V$	+7			dBm
	Load	R_L			50		Ohm
	Harmonics					-25	dBc
Sub-harmonics Level				None			
Power Supply							
Voltage	V_{cc}		4.75	5.00	5.25	V	
Power Consumption		Warm-up Steady-state @+25°C	130	180	1200	mW	10MHz, -40°C to +85°C
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		s	Ref. frequency after 15 min
Frequency Control							
Control Voltage	V_C	$V_{cc} = 5V$	0		4.3	V	
Tuning Range		Compliance with 10 years of aging	±0.3	±1.0		ppm	Positive slope
Reference Voltage	V_{ref}		4.1	4.2	4.4	V	
Frequency Stability							
VS. Temperature		Ref at +25°C			±50	ppb	
VS. Supply Voltage Change		Ref. V_{cc} typ		±2		ppb	
VS. Acceleration		Worst Direction	±0.3	±1.0		ppb/G	
Retrace		24 ^h work after 24 ^h off			±10	ppb	
Allan Variance		1s	5		40	e^{-12}	
Aging	Per Day	After 30 days of operation		±0.50		ppb	
	Per Year			±50		ppb	
Phase Noise							
Phase noise		1Hz	-105		-90	dBc/Hz	@ 10MHz $V_{cc}=5V$
		10 Hz	-135		-120		
		100 Hz	-155		-145		
		1 KHz	-165		-155		
		10 KHz	-170		-165		
		100 KHz	-172		-165		
Environmental Conditions							
Parameter	Reference Std.						
Operating temperature range	-30°C to +70°C						
Storage temperature range	-60°C to +85°C						
Power Voltage	-0.5V to $V_{cc}+20\%$						
Control Voltage	-0.5V to 6.0V						
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 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						