



Features and Benefits

- Very small sizes
- Very low power consumption (to 0.23W at +25°C)
- Very high mechanical strength: to up 500G, 1ms shocks
- Vibration 30G to 2000Hz sine
- High frequency stability (to ±10ppb over -40°C to +85°C)
- Fast warm-up: 60s to 0.1ppm accuracy
- Operational frequency range: 8 to 100MHz

Typical Applications

- Portable Wireless Communications
- Mobile Test equipment
- Beacons & Rescue systems
- Equipment working at severe mechanical factors

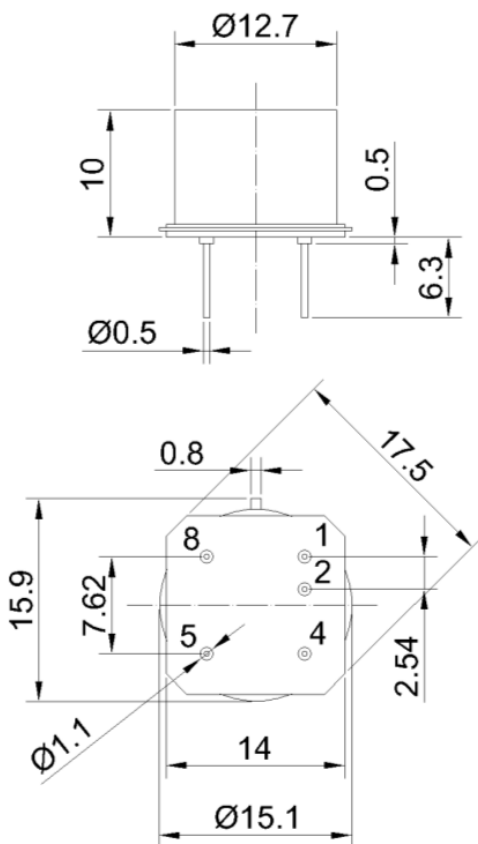
Description

The OCXO3311C series ovenized oscillator employs a directly heated crystal process which delivers very fast warm-up, excellent phase noise and frequency long term stability in a very small industry-standard package.

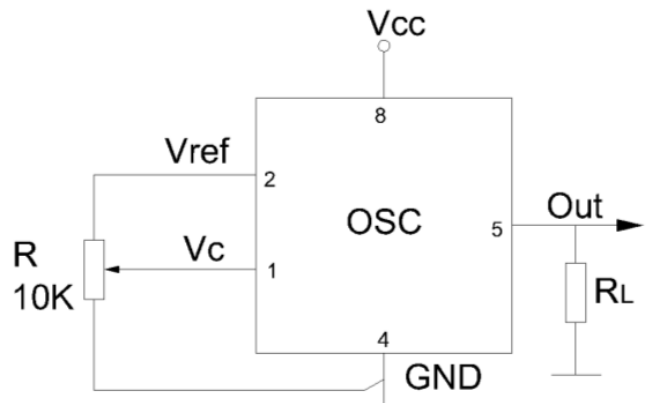
Mechanical Drawing & Pin Connections

Drawing No: MD140038-2

Physical dimensions



Schematic connections



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

Unit : mm



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	F _{nom}		8		100	MHz	
HCMOS	Load		10			KOhm	
					15	pF	
	H-Level Voltage	V _H	3.8			V	
	L-Level Voltage	V _L			0.4	V	
	Duty Cycle			45		55	%
Rise/Fall Time					10	ns	For 10MHz optional frequency
Power Supply							
Voltage	V _{cc}		4.75	5.0	5.25	V	3.3V available
Power Consumption	I _{warm-up}	Warm-up state Steady state, +25°C		1.0 0.23		W	
Warm-up Time:	t _{up}	Δf/f ₀ = 1e-7 at 25°C, V _{cc} = 5V	30	60		s	ref. to frequency after 15 min
		Δf/f ₀ = 1e-7 at 25°C, V _{cc} = 3.3V	40	70			
Frequency Control*							
Control voltage range	V _c	V _{cc} = 5V	0		4.2	V	Tuning Slope Positive (standard option)
		V _{cc} = 3.3V	0		2.8		
Tuning range			±0.5	±1		ppm	
Reference voltage	V _{ref}	V _{cc} = 5V	4.1	4.2	4.3	V	
		V _{cc} = 3.3V	2.7	2.8	2.9		
Frequency Stability							
Vs. Operating Temperature Range		-30°C to +70°C, ref. 25°C		±50		ppb	For more information, please consult sales
Vs. Supply Voltage Change		Ref. V _{cc} typ.		±2		ppb	
Vs. Acceleration		Worst direction			±1	ppb/G	
Aging Per Day		After 30 days of operation		±0.5		ppb	For more information, please consult sales
Aging Per Year				±0.05		ppm	
Phase noise		1 Hz		-97		dBc/Hz	Utmost phase noise level 10MHz op. freq.
		10 Hz		-127			
		100 Hz		-152			
		1000 Hz		-162			
		10 KHz		-166			
Environmental Conditions							
Operating temperature range		-30°C to +70°C					
Storage temperature range		-60°C to +90°C					
Humidity		Non-condensing 95%					
Mechanical Shock		Per MIL-STD-202, 500G half sine pulse, 11ms (500G, 1ms-special option)					
Vibration		Per MIL-STD-202,30G swept sine 10 to 2000Hz					
Soldering Conditions		Hand solder only – not reflow compatible. 260°C 10s (on pins)					