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 warming-up: 60s to 0.1ppm accuracy
Operational frequency range: 8 to 100MHz

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.

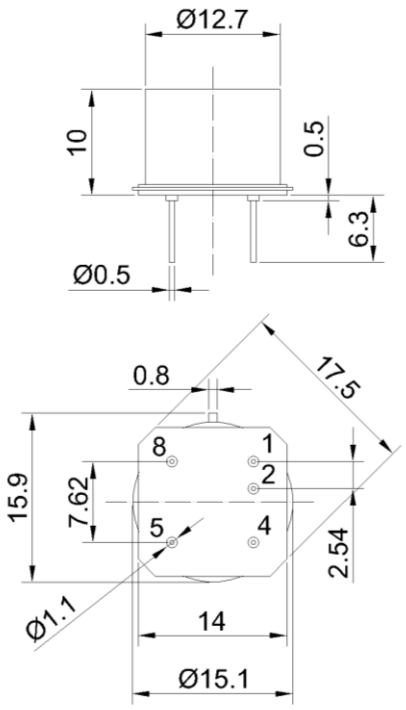
Typical Applications

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

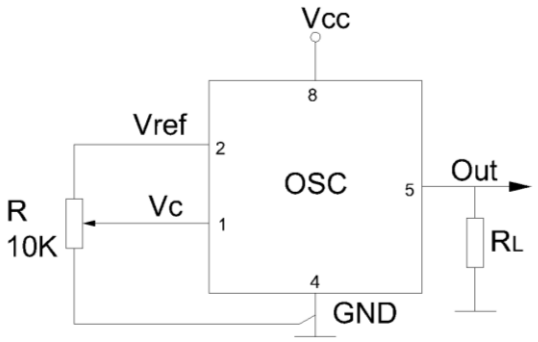
Mechanical Drawing & Pin Connections

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

OCXO Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Frequency Range		F_0		8		100	MHz	
RF Output								
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		1.0		W	
			Steady state, +25°C		0.23		W	
Warm-up Time		t_{up}	$\triangle f/f_0$ = 1e-7 at 25°C, V_{cc}=5V	30	60		s	ref. to frequency after 15 min
			$\triangle f/f_0$ = 1e-7 at 25°C, V_{cc}=3.3V	40	70		s	
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	V	
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	V	
Frequency Stability								
vs. Temperature			-30°C to +70°C, ref. 25°C		+/-50		ppb	For more information, please consult sale
vs. Supply Voltage			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 sale
	First Year				+/-0.05		ppm	
Phase Noise								
Phase Noise			1Hz		-97		dBc/Hz	Utmost phase noise level 10MHz op. freq.
			10Hz		-127			
			100Hz		-152			
			1kHz		-162			
			10kHz		-166			

Environmental	
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)