



Features and Benefits

- Miniature DIP 8 sizes
- Very low power consumption (to 0.15W at +25°C)
- High frequency stability (to ±5 ppb over -40°C to 85°C)
- Very fast warming-up (to 15s)
- Low phase-noise level (-165 dBc/Hz, floor)
- Low aging (to ±0.2 ppb/day, ±20 ppb/year)
- Frequency range 8-100MHz

Description

The OCXO3310C 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.

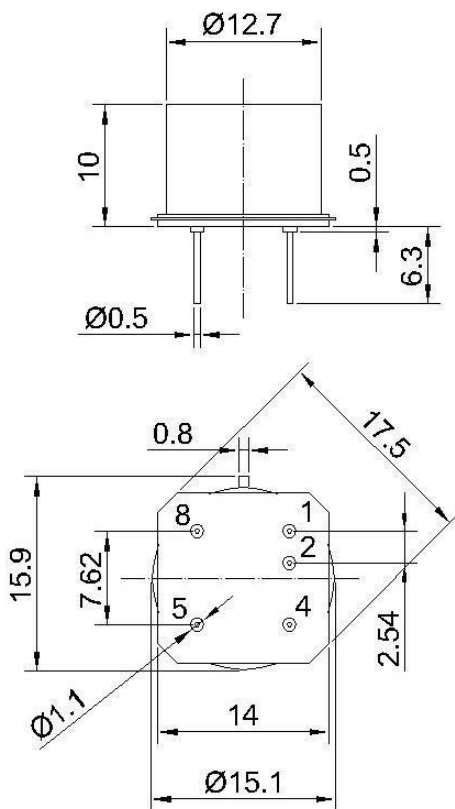
Typical Applications

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

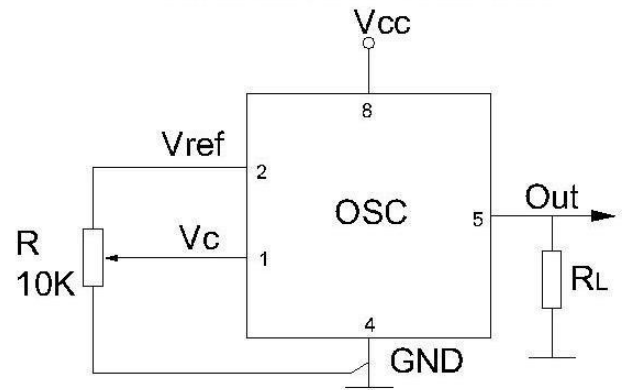
Mechanical Drawing & Pin Connections

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								
HCOMS	Load			10			kOhm	For 10MHz
	H-level Voltage	V _H		3.8		15	pF	
	L-level Voltage	V _L				0.4	V	
	Duty Cycle			45		55	%	
	Rise/Fall Time					10	ns	For 10MHz
Power Supply								
Voltage		V _{cc}		4.75	5.0	5.25	V	3.3V available
Power Consumption			Warm-up state		0.7		W	
		I _{Warm-up}	Steady state, +25°C		0.15		W	
Warm-up Time		t _{up}	Δf/f ₀ = 1e-7 at 25°C	15	60		s	ref. to frequency after 15 min
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			-40°C to +85°C, ref. 25°C			5	ppb	For more information, please consult sale
vs. Supply Voltage			Ref. V _{cc} typ.		+/-2		ppb	
vs. Acceleration			Worst direction	0.5		+/-1	ppb/G	
Aging	Per Day		After 30 days of operation	0.2	0.5		ppb	For more information, please consult sale
	First Year			0.03	0.05		ppm	
Phase Noise								
Phase Noise				1Hz	-100	-90	dBc/Hz	For 10MHz operational frequency
				10Hz	-130	-125		
				100Hz	-148	-145		
				1kHz	-158	-155		
				10kHz	-165	-165		
Allan Variance				1s		20	e-12	
Environmental								
Operating Temperature Range		-40°C to +85°C						
Storage Temperature Range		-60°C to +90°C						
Humidity		Non-condensing 95%						
Mechanical Shock		Per MIL-STD-202, 30G half sine pulse, 11ms (500G, 1ms-special option)						
Vibration		Per MIL-STD-202, 10G swept sine 10 to 2000Hz						
Soldering Conditions		Hand solder only – not reflow compatible. 260°C 10s (on pins)						