



Features and Benefits

- Very low power consumption (to 0.15W at +25°C)
- DIP14 compatible sizes including 8mm height option
- High frequency stability (up to ± 5 ppb over -40°C to +85°C)
- Very fast warming-up (45s typical, to 15s optionally)
- Very low phase noise (-173 dBc/Hz) and phase jitter
- Low aging
- Fundamental operation up to 150MHz

Description

OCXO3309C series offers wide temperature operation from -40°C to +85°C with outstanding frequency stability and low phase noise performance all with very fast warm-up and less than 0.15W power dissipation at 25°C.

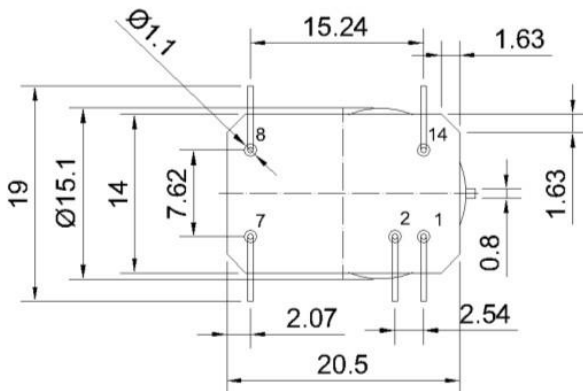
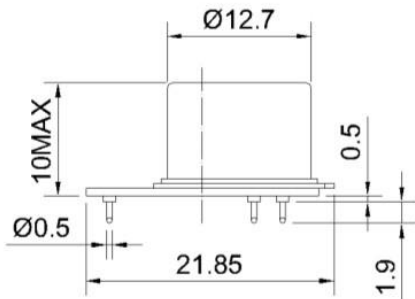
Typical Applications

- UHF Synthesizers
- SATCOM System
- Portable Microwave Applications

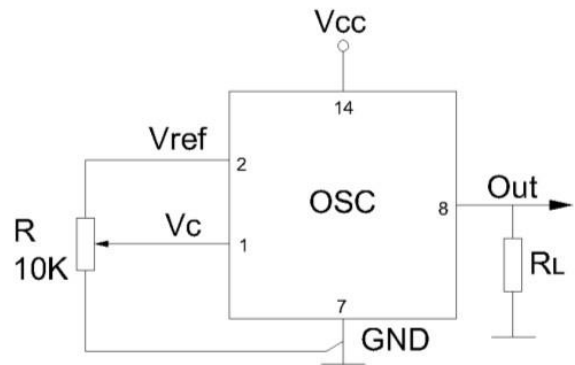
Mechanical Drawing & Pin Connections

Drawing No: MD140029-2

Physical dimensions



Schematic connections



Pin	Signal
1	Electrical tuning
2	Reference voltage
7	GND
8	RF Out
14	+V Supply

Unit : mm



Specifications

HPXO Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F ₀		8		150	MHz	
RF Output							
HCMOS (TTL) option	Load		10		15	Kohm	
	H-Level Voltage	V _H	3.9			V	
	L-Level Voltage	V _L			0.4	V	
	Duty Cycle		45		55	%	
	Rise/Fall Time				10	ns	For 10MHz operational frequency
Sine wave option	Level	L	+6	+8	+10	dBm	
	Load	RL		50		Ohm	
	Harmonics Level				-25	dBc	
Sub-harmonics Level			None				
Power Supply							
Voltage	V _{cc}		4.75	5.0	5.25	V	3.3V available
Power Consumption		Steady-state@+25°C		0.15		W	
		Warm-up		0.7		W	
Warm-up Time		T _{0Δf/f=1e-7} , at 25°C	15	45		s	Ref. frequency after 10 min.
Frequency Control							
Control Voltage	V _c	V _{cc} =5V	0		4.3	V	Tuning slop-postive
		V _{cc} =3.3V	0		2.8	V	
Tuning Range			+/-0.5	+/-1		ppm	
Reference Voltage	V _{ref}	V _{cc} =5V	4.19	4.3	4.41	V	
		V _{cc} =3.3V	2.73	2.8	2.87	V	
Frequency Stability							
Vs. Operating Temperature Range		-40°C to +85°C			+/-5	ppb	Ref 25°C
Vs. Supply Voltage Change		Ref. V _{cc} typ.		+/-2		ppb	
Vs. Acceleration		Worst direction	+/-0.5		+/-1	ppb/G	
Allan Variance		1s		20		e-14	
Aging	Per Day	After 30 days of operation		+/-0.5		ppb	
	Per Year		+/-0.05		ppm		
Phase Noise							
Phase Noise		@1Hz	-100	-95		dBc/Hz	For 10MHz operational frequency
		@10Hz	-130	-125			
		@100Hz	-150	-145			
		@1KHz	-160	-155			
		@10KHz	-170	-165			
		@100KHz	-173	-168			
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						
Vibration	Per MIL-STD-202, 10G swept sine 10 to 2000Hz						
Soldering Conditions	260°C 10s						