



Features and Benefits

Very Low Power Consumption: 0.15W at +25°C
Fast Warming-up: 60 s typical
Low Aging: +/-3.0 ppb/day, +/-300 ppb/year

Typical Applications

Portable Wireless Communications
Mobile Test equipment
Synthesizers
Battery Powered Application

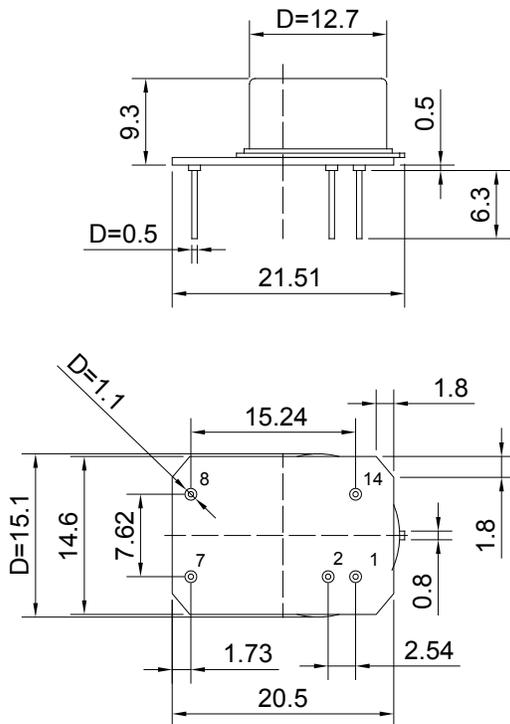
Description

The OCXO3307C-42.8MHz-A-V utilizes the internal heating resonator (IHR) technology incorporating the whole oven system together with the crystal plate inside the TO-8 vacuum holder. Such an OCXO concept results in radical reduction of its volume, power consumption and warm-up time. In spite of the miniature sizes and extremely low power consumption such oscillators exhibit excellent temperature stability, low phase-noise and aging rate being at the level of high-end OCXOs using conventional oven designs.

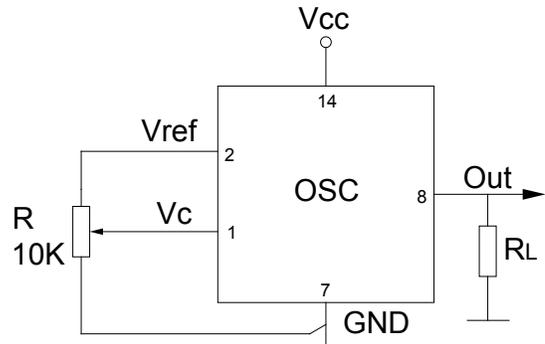
Mechanical Drawing & Pin Connections

Drawing No: MD140075-1

Physical dimensions



Schematic connections



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

Unit: mm
1mm=0.039inch



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_{nom}			42.800000		MHz	
Initial tolerance		at +25°C, $V_c=V_{cc}$	-0.2		+0.2	ppm	
RF Output							
Waveform :				HCMOS			
Load		5 pF in parallel with 10K		5//10K		pF//K	
H-level voltage		$V_{cc}=3.3V$	2.4			V	
L-level voltage					0.4	V	
Duty cycle			45		55	%	
Rise/Fall time					10	ns	
Sub-harmonics level				none			
Frequency control							
Control voltage range	V_c		0		2.8	V	
Frequency Turning Range			+/-0.5	+/-1	-	ppm	+
Reference Voltage	V_{ref}			2.8		V	
Power Supply							
Voltage	V_{cc}			3.3		V	
Power consumption		Warm-up state		0.7		W	
		@ +25°C steady state		0.15			
Warm-up Time:	T_{up}	to $\Delta f/f = 1e^{-7}$ at +25°C		60		s	ref. to frequency after 15 min
Frequency Stability							
Vs. Temperature		Ref. 25°C			+/- 10	ppb	
Vs. Supply Voltage		Ref V_{cc} typ.		+/-2		ppb	
vs. direction		worst direction			+/-1	ppb/g	
Aging	per day	after 30days of operation			+/-3	ppb	
	first year				+/-300	ppb	
SSB Phase noise		1 Hz		-75		dBc/Hz	
		10 Hz		-105			
		100 Hz		-125			
		1 KHz		-145			
		10KHz		-155			
		100 KHz		-160			
Environmental Conditions							
Storage temperature range		-60°C to 90°C					
Operating temperature range		-40°C to 85°C					
Humidity		Non-condensing 95%					
Mechanical Shock		MIL-STD-202, 30G half sine pulse, 11 ms					
Vibration		MIL-STD-202, 5G swept sine, 10 to 2000 Hz					
Washing Conditions		Washing with water or alcohol based detergent allowed only with final enough drying stage					
Soldering Conditions		Hand solder only – not reflow compatible 260°C 10s(on pins)					