Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL:Sales@DynamicEng.com

OCXO3307LP-20MHz-A-V
Ultra Low Power Miniature Low Profile OCXO

Features and Benefits

14DIP Compatible 8mm Height Packaging
Very Low Power Consumption: 0.15W at +25°C
Fast Warming-up: 60 s typical
Low Aging: +/-2.0 ppb/day, +/-200 ppb/year
Wide Frequency range: 8 – 120 MHz

Typical Applications

Portable Wireless Communications
Mobile Test equipment
Synthesizers
Battery Powered Application

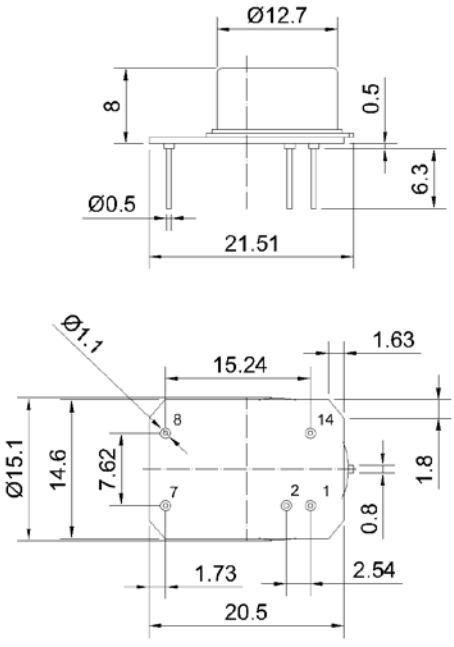
Description

The OCXO3307LP-20MHz-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.

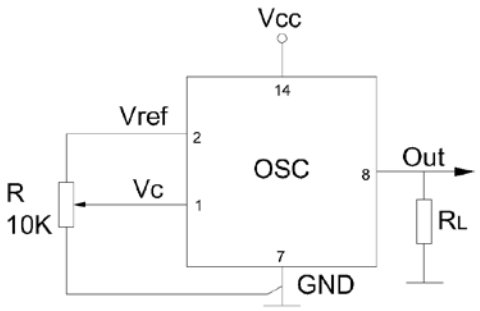
Mechanical Drawing & Pin Connections

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

Dynamic Engineers reserves the right to make changes to the company datasheet(s) along with other information contained inside; such as data tables and graphs without notification to potential customers who may have earlier revisions in their possession.

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_{nom}			20.000000		MHz	
Initial tolerance		at +25°C, Vc=Vc_0	-0.2		+0.2	ppm	
RF Output							
Waveform : LVCMOS				HCMOS			
Load		5 pF in parallel with 10K		5//10K		pF//K	
H-level voltage							
		Vcc=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	
		@ +25ºC steady state		0.15			
Warm-up Time:	T_{up}	to Δf/f = $1e^{-7}$ at +25℃		60		s	ref. to frequencyafter 15 min
Frequency Stability							
Vs.Temperature		Ref. 25°C			+/- 50	ppb	
Vs. Supply Voltage		Ref Vcc typ.		+/-2		ppb	
vs. direction		worst direction			+/-1	ppb/g	
Aging per day		after 30days of operation			+/-2	ppb	
Aging first year					+/-200	ppb	
SSB Phase noise		1 Hz		-87		dBc/Hz	
		10 Hz		-117			
		100 Hz		-140			
		1 KHz		-150			
		10KHz		-160			
		100 KHz		-163			

Environmental Conditions	
Storage temperature range	-60℃ to 90℃
Operating temperature range	-40℃ to 85℃
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)

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