



Dynamic Engineers Inc.

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C7LC' ' \$- 5 K ! (\$A < n!5 !J

Very low power high stability low phase-noise miniature OCXO

Features and Benefits

- Miniature DIP8 sizes
- Very low power consumption (to 130mW at +25°C)
- High frequency stability (to ± 100 ppb over -40°C to 85°C)
- Very fast warming-up (to 30 s)
- Low aging (to 1ppb/day, 0.1ppm/year)

Typical Applications

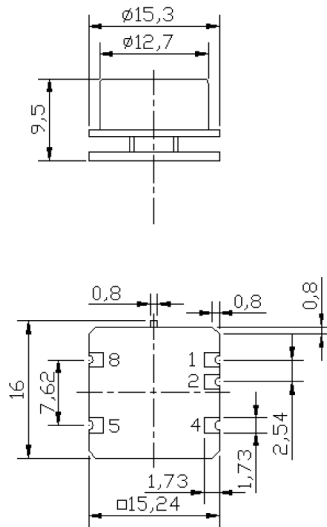
- Portable Wireless Communications Mobile
- Test equipment
- Synthesizers
- Battery Powered Application

Description

OCXO3309AW-40MHz-A-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

Mechanical Drawing & Pin Connections

Drawing No: MD% \$\$, !&



Pin	Signal
1	Electrical tuning
2	Reference voltage
4	GND
5	RF Out
8	+V Supply

Unit in mm
1mm = 0.0394 inches



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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F _{nom}			40		MHz	
RF Output							
Signal Waveform			HCMOS				
H-level voltage			2.4			V	
L-level voltage					0.4	V	
Duty cycle			45		55	%	
Rise/Fall time					10	ns	
Load			15kohm//10pf				
Power Supply							
Reference Voltage VREF Output			2.7	2.8	2.9	V	
Supply Voltage	V _s		3.15	3.3	3.45	V	
Warm-up Time	T _{up}	At +25°C to Δf/f=1e-7	30	60		s	ref to freq after 15 min of operation
		At +25°C to Δf/f=1e-8		120		s	
Power Consumption		Steady state, +25°C	130	180		mW	
		Warm-up			1200	mW	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Compliance with 10 years aging	±0.3	±1		ppm	
EFC voltage	V _c		0		2.8	V	
EFC Slope			positive				
Frequency Stability							
Versus Operating Temperature Range		-40°C to 85°C		±100		ppb	
Initial Tolerance @+25°C		V _c @ VREF / 2		±0.1		ppm	
Versus supply voltage	V _s	Ref Vcc typ		±2		ppb	
Versus acceleration		Worst direction	±0.3	±1.0		ppb/G	
Aging Per Day		After 30 days of operation		±1		ppb	
Aging 1 st Year					±0.1		ppm
Phase Noise		10Hz	-100		-90	dBc	
		100Hz	-130		-120	dBc	
		1kHz	-155		-150	dBc	
		10kHz	-170		-165	dBc	
		100kHz	-172		-165	dBc	
Environmental, Mechanical Conditions							
Operating temperature range	-40°C to 85°C						
Storage temperature range	-60°C to 85°C						
Power voltage	-0.5V to Vcc+20%						
Control voltage	-0.5V to 6V						
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 2000 Hz						
Soldering conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)						
Washing conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						