



Dynamic Engineers Inc.

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OCXO5050L-100MHz-A-V

Vibration Isolated Package; 15V

Features and Benefits

- Ultra-Low phase noise
- Low vibration sensitivity
- Sine wave output
- Frequency Tuning Input
- 50 x 50 x 30 mm

Typical Applications

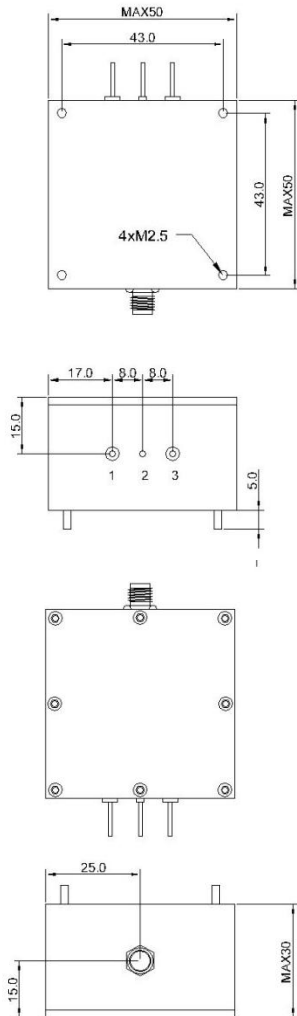
- Signal Analyzer Reference for internal synthesizers
- SATCOM Systems
- Harsh Environment Applications

Description

OCXO5050L series is ultra-low phase noise OCXO in vibration-isolated package.

Mechanical Drawing & Pin Connections

Drawing No: MD140049-2



Pin	Function
1	V _s , Supply Voltage
2	GND, Ground
3	V _c , Control Voltage (EFC)
SMA	RF Out, RF Output

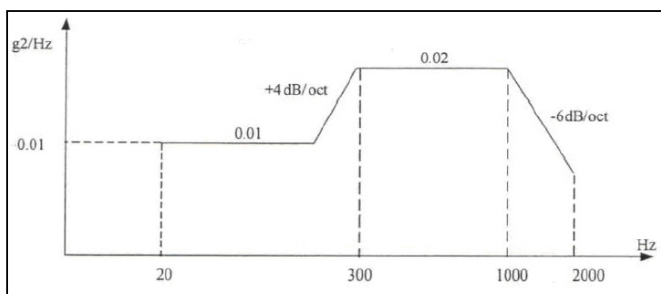
Unit: mm



Specifications

OCXO Specification	Sym	Condition	Value			Unit	Note				
			Min.	Typ.	Max.						
Frequency Range	F ₀		50		130	MHz					
Standard Frequencies			100.000/120.000			MHz					
RF Output											
Output Waveform			Sine wave								
Load	R _L	+/-5%		50		Ohm					
Output Level			+7			dBm					
Harmonics				-40	-30	dBc					
Spurious At Rest					-90	dBc					
Power Supply											
Voltage	V _{cc}		11.400	12.000	12.6000	V	Other supply voltage on request				
Current Consumption		Warm-up			500	mA					
		Steady-state@+25°C			300	mA					
Warm-up Time@+25°C		$\Delta f_{final}/f_0 < \pm 0.1 \text{ppm}$			5	min					
Frequency Control*											
Frequency Adjust Range			± 1	± 2		ppm	Tuning Slope: Positive				
Control Voltage			1	5	9	V					
Internal Resistance			100			Kohm					
Frequency Stability											
Initial Tolerance at +25°C		V _c =5V			± 300	ppb					
Vs. Operating Temperature Range		-40°C to +85°C Steady state		± 100	± 200	ppb	Other stability and temperature range on request				
Vs. Supply Voltage Change		Vs $\pm 5\%$			± 10	ppb					
Long Term Per Day		After 30 days operation			± 2	ppb					
Long Term Per Year		After 30 days operation			± 100	ppb					
Phase Noise											
Offset	100 MHz					120 MHz					Unit
	A	B	C	D	E	A	B	C	D	E	
10Hz	-90	-95	-97	-100	-105	-85	-90	-95	-97	-100	dBc/Hz
100Hz	-125	-130	-132	-135	-137	-118	-122	-125	-127	-130	
1KHz	-155	-158	-160	-162	-164	-148	-150	-153	-155	-157	
10KHz	-165	-168	-170	-172	-174	-160	-165	-168	-170	-172	
100KHz	-175	-175	-175	-175	-175	-175	-175	-175	-175	-175	
Vibration Sensitivity											
Option	Phase noise at 1 KHz						Unit				
140	-140						dBc/Hz				
145	-145										
150	-150										
155	-155										
Environmental											
Operating Temperature Range	-40°C to +85°C										
Storage Temperature Range	-55°C to +125°C										
Size	50.0 x 50.0 x 30.0 mm Max.										
Weight	200g Max.										

Vibration Profiles



PSD = 0.02 g²/Hz according to RTCA/DO160E Curve C

Functional test: 1 hour each direction
 Endurance test: 3 hours each direction at 2 times the PSD level of the functional test

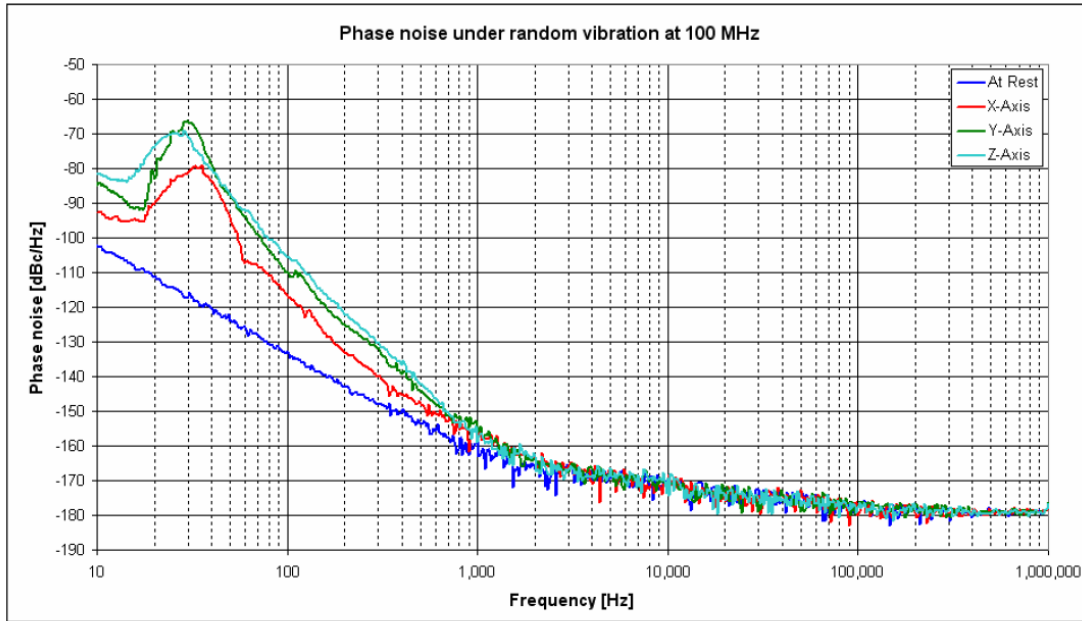
Notes: - Other vibration profiles on request
 - Enclosure height depends on vibration profile

: December 11, 2015

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Phase noise response under random vibration



Typical phase noise response for vibration sensitivity option "155"