



### Features and Benefits

- Frequency 100.000000 MHz
- +10 dBm min. ultra low noise sine wave output
- ±100.0 ppb max. from -55°C to +85°C
- ±1.0 ppm min. adjust min. from 0.0V to 10.0V
- 132 dBc/Hz or BETTER @ 100 Hz offset
- 163 dBc/Hz or BETTER @ 1000 Hz offset

### Description

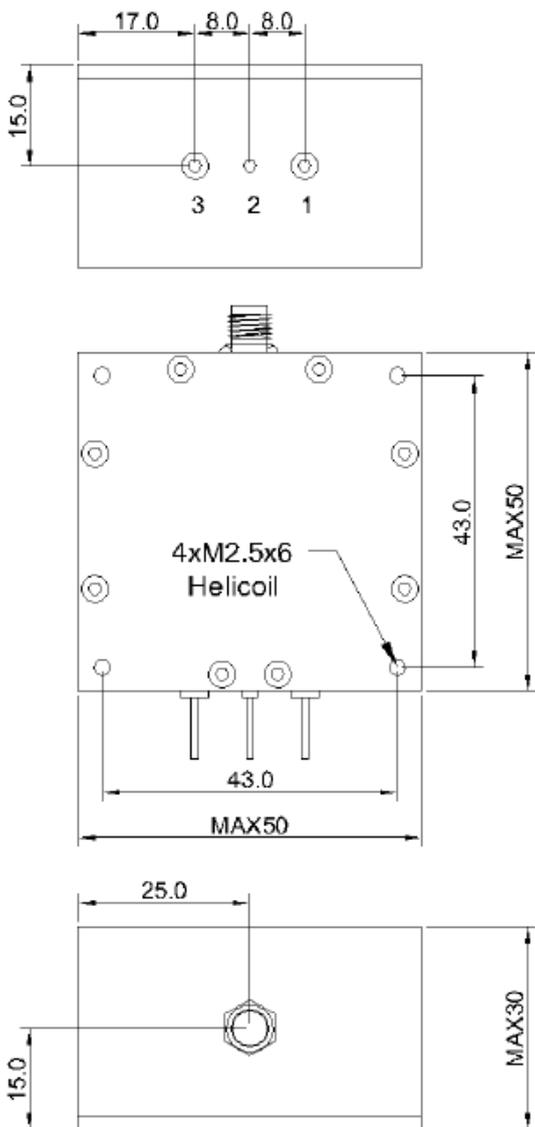
The OCXO5050L family offers a specially designed vibration isolated package with a 100 MHz SC-cut crystal impedance matched to the oscillator and amplifier circuits to deliver consistent world class phase noise on all production shipments.

### Typical Applications

- Ref. for microwave comm.
- System Signal Analyzer Reference for internal synthesizers
- SATCOM Systems

### Mechanical Drawing & Pin Connections

Drawing No: MD140049-1



#### Pin Connection:

Pin#	Symbol	Function
1	Vs	Supply Voltage
2	GND	Ground
3	Vc	Control Voltage(EFC)
SMA	RF OUT	RF Output

Unit : mm

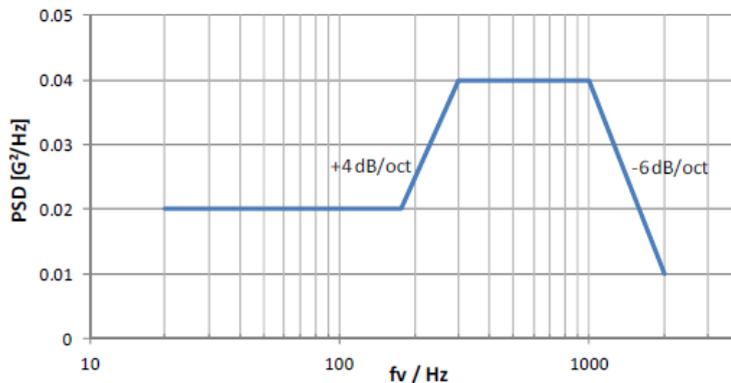


**Specifications**

OCXO Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	$F_0$			100.000		MHz	
<b>RF Output</b>							
Output Waveform		$R_L=50\Omega$	Sine wave				
Output Level			+10	+12		dBm	
Harmonics					-40	dBc	
Spurious At Rest					-90	dBc	
<b>Power Supply</b>							
Voltage	$V_S$		14.25	15.0	15.75	V	
Current Consumption	Warm-up	@+25°C			400	mA	
	Steady-state	@+25°C			150	mA	
Warm-up Time	@+25°C	$\Delta f_{final}/f_0 < +/- 0.2\text{ppm}$			5	min	
<b>Frequency Control</b>							
Electronic Frequency Control(EFC)			+/-1	+/-2		ppm	
EFC Voltage $V_c$			0	5.0	10	V	
EFC Slope( $\Delta f / \Delta V_c$ )			Positive				
EFC Input Impedance			100			K $\Omega$	
<b>Frequency Stability</b>							
Initial Tolerance		@+25°C , $V_c=5.0V$			+/-200	ppb	
Vs. Operating Temperature Range		Steady State			+/-100	ppb	
Vs. Supply Voltage Variation(Pushing)		$V_S +/- 5\%$			+/-10	ppb	
Long Term Aging	Per Day	After 30 Days Operation			+/-2	ppb	
	Per Year	After 30 Days Operation			+/-100	ppb	
<b>Phase Noise</b>							
Phase Noise At Rest		@10Hz			-100	dBc/Hz	
		@20Hz			-110		
		@100Hz		-135	-132		
		@500Hz		-155	-150		
		@1KHz		-165	-163		
Phase Noise Under Random Vibration (See Vibration Profile Chart)		@>=10KHz		-178	-175	dBc/Hz	
		@100Hz to 199Hz		-110	-105		
		@200Hz to 299Hz		-125	-120		
		@300Hz to 499Hz		-130	-125		
		@1KHz to 10KHz		-150	-145		
<b>Environmental</b>							
Operating Temperature Range	-55°C to +85°C						
Storage Temperature Range	-60°C to +90°C						
Size	50.0x50.0x30.0mm Max.						
Weight	200g Max.						

**Random vibration profile**

Vibration profile



- (1) 0.02 g<sup>2</sup>/Hz @ 20 Hz ~ 178 Hz
- (2) +4 dB/Oct @ 178 Hz ~ 300 Hz
- (3) 0.04 g<sup>2</sup>/Hz @ 300~1000 Hz
- (4) -6 dB/Oct @ 1000 Hz ~ 2000 Hz
- (5) 0.01 g<sup>2</sup>/Hz @ 2000 Hz