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

OCXO2020C-61.44MHz-A-V
Vibration resistant OCXO

Features and Benefits

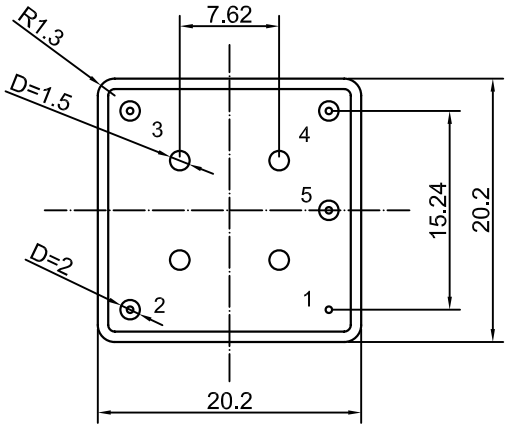
Better than ±100 ppb from -55°C to +85°C
5.0V supply; 50mA maximum
Less than -155dBc/Hz @ 1KHz offset
Wide operating temperature range from -55°C to +85°C
Typical G sensitivity: 1.5 ppb / G

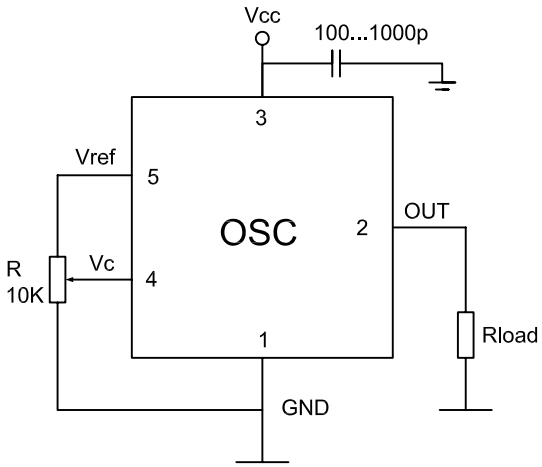
Typical Applications

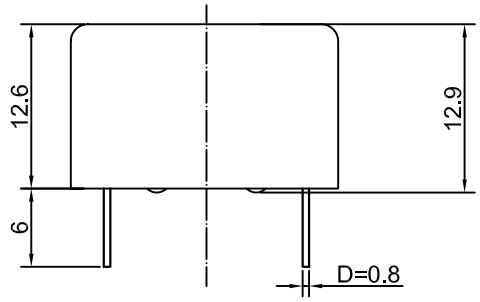
Mobile Base Station
SATCOM Equipment

Mechanical Drawing & Pin Connections

Drawing No:MD160093-1







Pin Connections

Pin	Description
1	GND
2	Output
3	Vcc
4	Control Voltage
5	Vref

Unit : mm
1mm=0.0394inch

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F_0			61.44		MHz	
RF Output							
Output Wave Form				Sine wave			
Load			45	50	55	ohm	
Level			+8	+9	+10	dBm	
Harmonics					-25	dBc	
Sub-Harmonics		None					
Power Supply							
Voltage	V_{cc}		4.75	5.00	5.25	V	
Warm-up Current		V_{cc} =5V			220	mA	
Continuous Current		@+25°C, V_{cc} =5V			50	mA	
Warm-up time	t_{up}	To $\Delta f/f=1e^{-7}$ @+25°C			90	sec	
Frequency Control							
Input Resistance	R_{in}			11		kOhm	
Voltage Range	V_c		0		4.2	V	
Slope				Positive			
Preset Control Voltage	V_{C0}	Disconnect V_C pin	1.95	2.10	2.25	V	
Frequency Range	(fL-f)/f	V_C=0 V			-0.9	ppm	
	(f-f)/f	$V_C=V_{C0}$		0		ppm	
	(f_H-f)/f	$V_C= V_{ref}$	0.9			ppm	
Reference Voltage	V_{ref}		4.1	4.2	4.3	V	
Frequency Stability							
VS. Tolerance	($f-f_0$)/f_0	@+25°C, $V_C=V_{C0}$	-0.1		0.1	ppm	
VS. Temperature		Ref +25°C			±100	ppb	
VS change in supply voltage		Ref V_{CC}typ			±5	ppb	
Aging - per day		After 30 days of operation			±2	ppb	
- per year					±0.2	ppm	
Phase Noise							
SSB Phase noise		10Hz		-100	-98	dBc/Hz	
		100 Hz		-130	-128		
		1 kHz		-155	-153		
		10 kHz		-165	-163		
		100 kHz		-168	-165		

Environmental Conditions	
Parameter	**Reference Std.**
Operating temperature range	-55°C to +85°C
Storage temperature range	-60°C to +90°C
Power Voltage	-0.5 to 6.0V
Control Voltage	-1.0 to 9.0V
Humidity	Non-condensing 95%
Typical G Sensitivity	1.5 ppb / G
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	1. 20Hz – 0.01g^2/Hz; 208 – 0.01; 500 – 0.024; 1500 – 0.024; 2000 – 0.018 1 hour for each of X,Y,Z axis with power on 2. 20Hz – 0.01g^2/Hz; 208 – 0.01; 500 – 0.024; 1500 – 0.024; 2000 – 0.018 40 hours for vertical Y axis with power off. 3. 20Hz – 0.008g^2/Hz; 104 – 0.008; 500 – 0.0384; 1500 – 0.0384; 2000 – 0.029 6 hours and 8 mins for each of X,Y,Z axis with power off. 4. 20Hz – 0.01g^2/Hz; 80 – 0.04; 350 – 0.04; 2000 – 0.007 15 mins for vertical Y axis with power on. 5. 20Hz – 0.01g^2/Hz; 41.7 – 2.0; 100 – 0.01 16 mins and 40 s for each of X,Y,Z axis with power off.
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)

Special Requirements

1. 1 hour for each of X, Y, Z axis, total 3 hours, power on, reference to Figure 1.

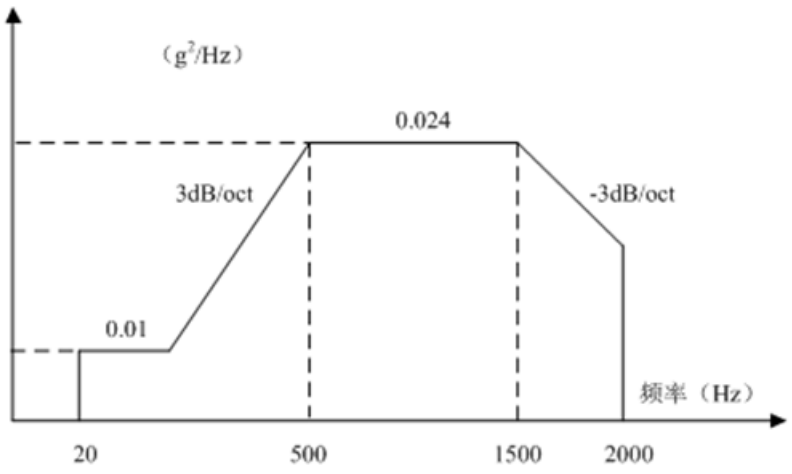

Figure 1

The DUT is power on. No structure deformation and other mechanical damage and affect the normal work, and all electric specs are qualified.

2. 40 hours for vertical Y axis, power off, reference to Figure 2.

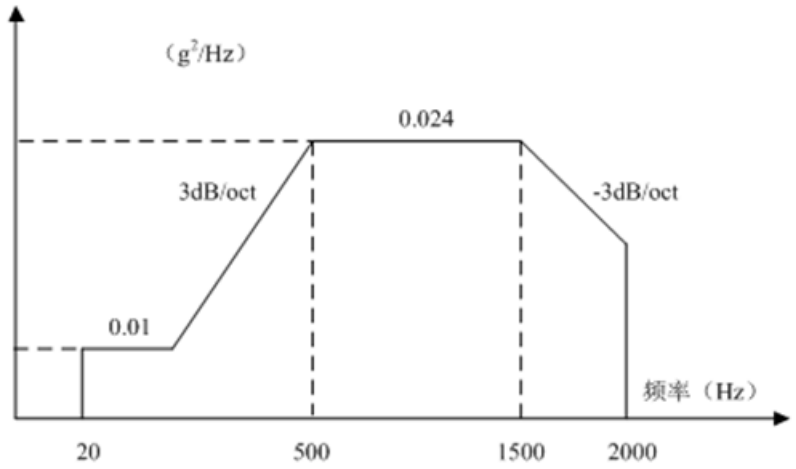

Figure 2

The DUT is power off. No structure deformation and other mechanical damage and affect the normal work, and all electric specs are qualified.

3. 6 hours and 8 mins for each ofX, Y, Z axis with power off, total is 18 hours and 24 mins, reference to Figure 3.

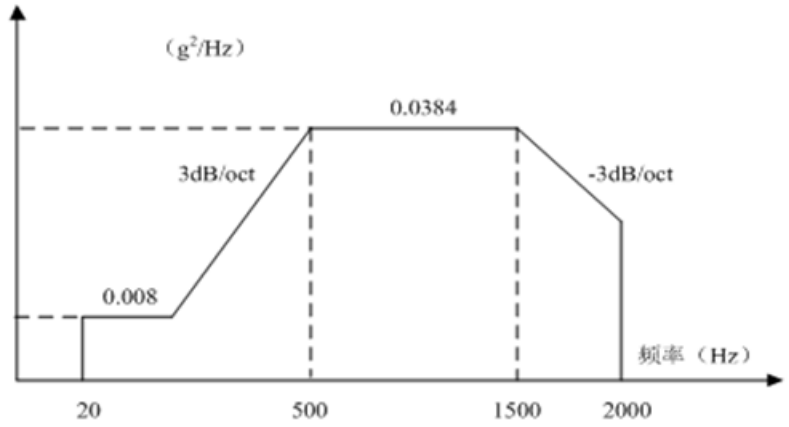

Figure3

The DUT is power off. No structure deformation and other mechanical damage and affect the normal work, and all electric specs are qualified.

4. 15 mins for vertical Y axis, power on, reference to Figure 4.

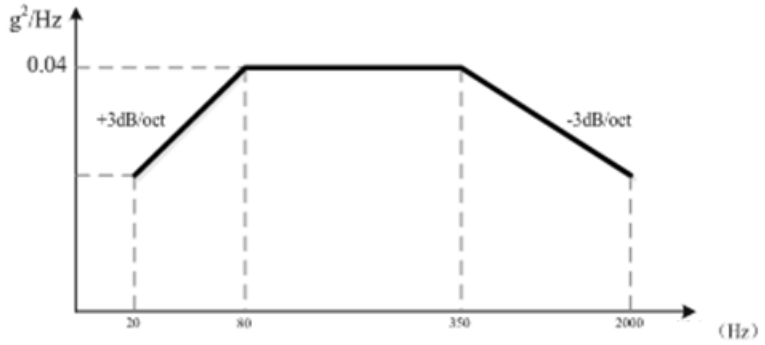

Figure 4

The DUT is power on. No structure deformation and other mechanical damage and affect the normal work, and all electric specs are qualified.

5. 16mins and 40 s for each of X, Y, Z axis with power off, total is 50 mins, reference to Figure 5.

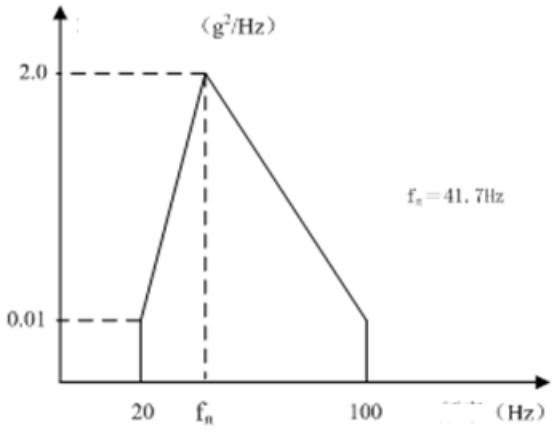

Figure5

The DUT is power off. No structure deformation and other mechanical damage and affect the normal work, and all electric specs are qualified.