Features and Benefits

Better than +/-1ppb available over -40°C to +85°C
Aging as good as +/-0.2ppb per day available
Outstanding phase noise offered in 20 x 20mm
Very low power double oven technology
Hermetically sealed package
Frequency tolerance@+25°C as good as +/-10ppb available

Typical Applications

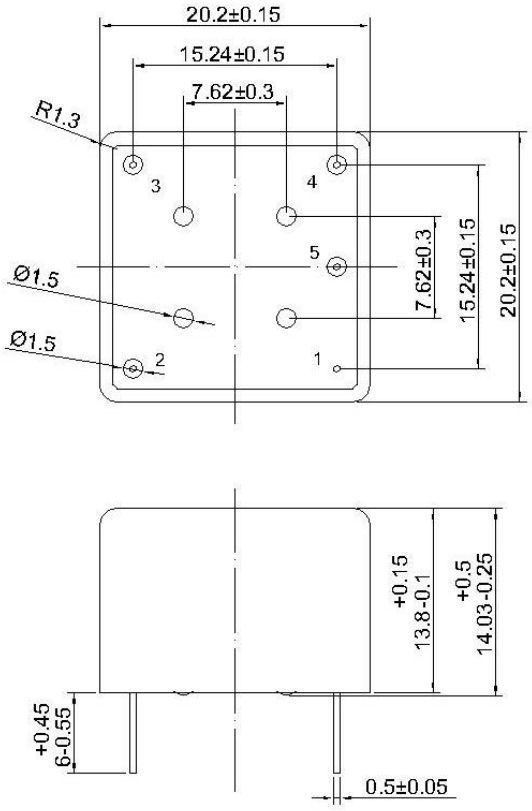
High End GPS Receiver System Reference
Test Instruments
Rubidium Standard Replacement
SATCOM Ground / Mobile Stations

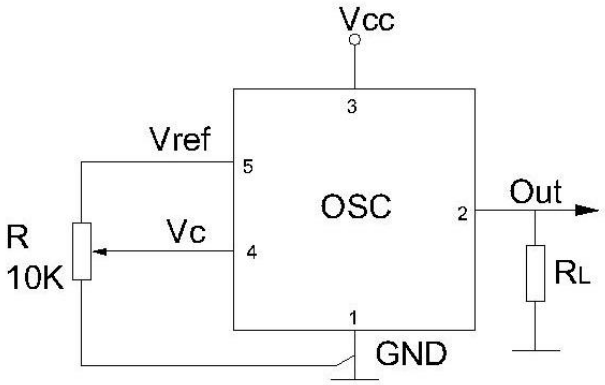
Description

The OCXO2020MX series use combines advantageous of the double-oven and internal heated resonator technology resulting in smallest in the word volume.

Mechanical Drawing & Pin Connections

Drawing No: MD140087-1





Unit : mm

Specification

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	F_{nom}			10.000000		MHz	
RF Output							
Wave form				Sine wave			
Level	L		+6			dBm	
Load	R_L		45	50	55	Ohm	
Harmonics Level					-25	dBc	
Frequency control							
Input Resistance	R_{in}			11		Kohm	
Voltage Range	V_c		0		4.2	V	Positive
Preset Control Voltage	V_{co}	Disconnect Vc pin	1.6	2.1	2.6	V	
Frequency Turning Range	$(f_L-f)/f$	V_C = 0V			-0.35	ppm	+
	(f-f)/f	$V_C = V_{Co}$		0		ppm	
	$(f_H-f)/f$	$V_C = V_{ref}$	0.35			ppm	+
Reference Voltage	V_{ref}		4.1	4.2	4.3	V	
Output Resistance of V_{ref}				91		Ohm	
Power Supply							
Voltage	V_{cc}		4.75	5.0	5.25	V	
Current Consumption		Warm-up			850	mA	V_{cc}=5V
		Steady-state			250	mA	V_{cc}=5V@25°C
Warm-up Time:	T_{up}	to $\Delta f/f = 1e^{-7}$ at +25℃ ref. to 30 min.			180	sec	
Frequency Stability							
Tolerance At 25°C		@25°C, $V_C = V_{Co}$	-0.1		+0.1	ppm	
Vs. Temperature		Ref. 25°C			+/-3	Ppb	
Vs. Supply Voltage		Ref Vcc typ.			+/-0.3	ppb	
Aging per day		after 30days of operation			+/-0.5	ppb	
Aging first year					+/-50	ppb	
Phase Noise		1 Hz		-95		dBc/Hz	
		10 Hz		-130			
		100 Hz		-150			
		1K Hz		-160			
		10 KHz		-165			
		100KHz		-165			

Environmental Conditions	
Power voltage	-0.5 to 6.0 V
Control voltage	-1.0 to 6.0 V
Operating temperature range	-40℃ to +85℃
Storage temperature range	-60℃ to 90℃
Humidity	Hermetically sealed
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 10G to 500Hz
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)