



Features and Benefits

- Less than +/- 0.1 ppb per day aging
- Less than +/- 20 ppb per year aging
- Less than +/- 0.2 ppb over -40°C to +85°C
- Industry Standard Package
- Less than 7.0E-12 root-allan variance for tau = 1 second

Typical Applications

Ideally suited for customer specified hold-over conditions over 24 hours over any +/- 15°C change in temperature.

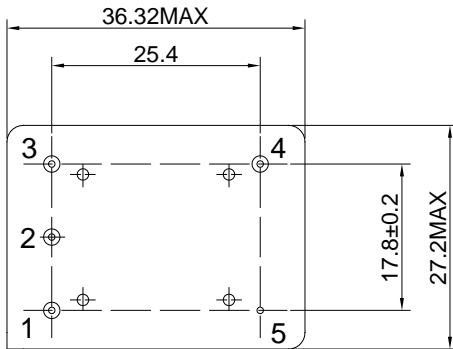
Description

This device is a traditional double oven design architecture utilizing ultra-low aging, proprietary high temperature processes to deliver a highly stable frequency reference source.

Mechanical Drawing & Pin Connections

Drawing No: MD150083-1

Bottom View

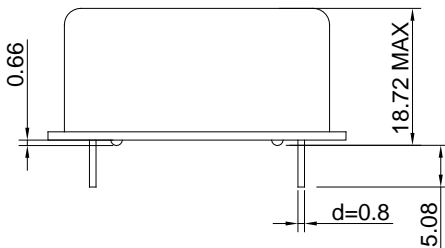


Pin Connections:

Pin	Symbol	Function
1	Vc	Control Voltage(EFC)
2	VREF	Reference Voltage
3	Vs	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

Unit : mm

Side View





Specifications

OCXO Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F ₀			10.000000		MHz	
RF Output							
Output Waveform			Sine wave				
Load				50		Ohm	
Level			+3.0	+5.0	+6.5	dBm	
Harmonic					-30	dBc	
Spurious					-60	dBc	
Power Supply							
Voltage	V _{cc}		4.75	5.0	5.25	V	
Power Consumption(Steady State)		@+25°C			2.5	W	
Current Consumption(Warm-up)	I _{warm-up}				1.75	A	
Reference Voltage							
Reference Voltage Output (Pin 2)			+2.66	+2.8	+2.94	V	
Load			9			Kohm	
Stability of Ref. Voltage over temp.			-0.0005		+0.0005	V	
Frequency Control*							
Electronic Frequency Control(EFC)		VCO @Min. voltage			-0.35	ppm	Ref. to frequency at nominal center voltage
		VCO @Max. voltage	+0.35			ppm	
EFC Voltage	V _c		0	+1.4	+2.8	V	
Linearity			-10		+10	%	
EFC Input Impedance			100			Kohm	
EFC Slope	Δf/V _c		Positive				
Frequency Stability							
Initial Tolerance @+25°C		After turn on power 30+/-5 minutes			+/-0.1	ppm	VCO input at center voltage +/-0.001V
Vs. Operating Temperature Range		From -40°C to +85°C Steady state			+/-0.2	ppb	
Vs. Supply Voltage Change		+/-5% change			+/-0.2	ppb	
Warm-up		In 5 minutes @+25+/-1°C	-20		+20	ppb	Ref. to 1hour
Short Term Stability		Allan Deviation		Tau = 1 sec	0.007	ppb/s	
				Tau = 10 sec	0.01	ppb/10s	
Aging	Per Day (After 30 Days Operation)				+/-0.1	ppb	
	Per Year (After 30 Days Operation)				+/-20	ppb	
	10 Years				+/-0.1	ppm	
Phase Noise							
Phase Noise		@1Hz			-90	dBc/Hz	
		@10Hz			-120	dBc/Hz	
		@100Hz			-140	dBc/Hz	
		@1KHz			-150	dBc/Hz	
		@10KHz			-155	dBc/Hz	
	@100KHz			-160	dBc/Hz		
Environmental							
Operating Temperature Range	-40°C to +85°C						
Vibration (non-operating)	MIL-STD-202, Method 201 0.06" Total p-p, 10 to 55Hz						
Shock (non-operating)	MIL-STD-202, Method 213 Test Condition J 30g, 11ms, half -sine						