

## MtronPTI Extended Temperature OCXOs MtronPTI P/N: XO517X Series

MtronPTI is introducing a High Temperature and High Stability OCXO XO517X series as a timing reference for extreme environment applications. XO517X series offers exceptional temperature stability of less than +/-1.0ppb, over an operating temperature of -40°C to +90°C.

### Key Features:

Wide operating temperature range -40C to +90C

Temperature Stability: +/-1.0ppb

Frequency 10MHz, 40MHz (contact factory for other frequencies)

Low Phase Noise

Low Aging

Product Classification: EAR99

### Applications:

Rugged Environment Ground based Satcom

Troposcatter communications

Extended Temperature Military/Aerospace/Avionics

Downhole Seismic

High Temperature Industrial Controls



### Representative Electrical Specifications(at 10MHz):

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F <sub>O</sub>		10.000000		MHz	
<b>Frequency Stability</b>						
Over Temperature Range		-1		+1	ppb	Over operating temp(-40C to +90C)
vs Supply Voltage Change			+/-0.5		ppb	±5% change in V <sub>s</sub>
vs Load Change			+/-0.5		ppb	±5% change in Load
Aging		-0.5		+0.5	ppb	Daily Aging
[After 30 days of operation]		-50		+50	ppb	1 <sup>st</sup> year
<b>RF Output</b>						
Output Type			Sinewave			
Output Level			+10		dBm	Into a nominal 50Ω load
Output Load			50		Ω	±5%
Harmonics				-30	dBc	
<b>Frequency Adjustment</b>						
Adjustment Method			External Voltage			
Tuning Voltage	V <sub>TUNE</sub>	0		+5.0	V <sub>DC</sub>	
Tuning Range			±2.0		ppm	
Input Impedance		10			KΩ	

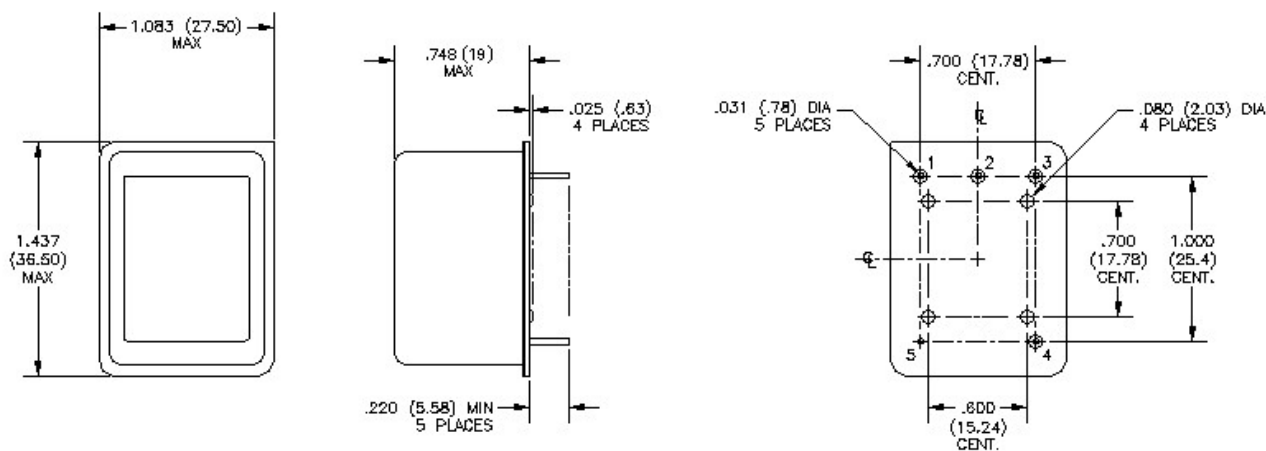


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Tuning Slope		Positive				
Phase Noise						
SSB Phase Noise – Static				-100	dBc/Hz	@ 1Hz Offset
				-137		@ 10Hz Offset
				-155		@ 100Hz Offset
				-162		@ 1kHz Offset;
				-165		@ 10kHz Offset;
Additional Parameters						
Supply Voltage	V <sub>S</sub>	11.4	12.0	12.6	V <sub>DC</sub>	
Power Consumption				6.0	Watts	@ Start-up
				2.5	Watts	@ +25°C Steady State
Operating Temperature		-40		+90	°C	

#### Mechanical and Pinout:



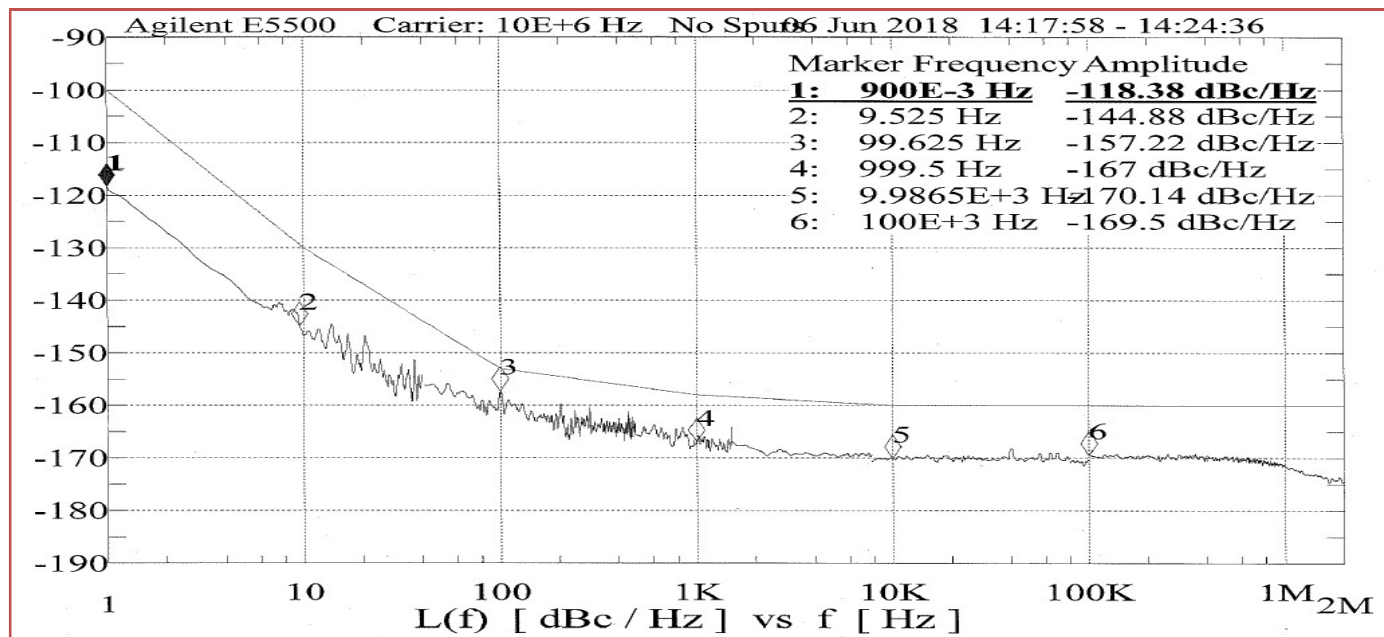
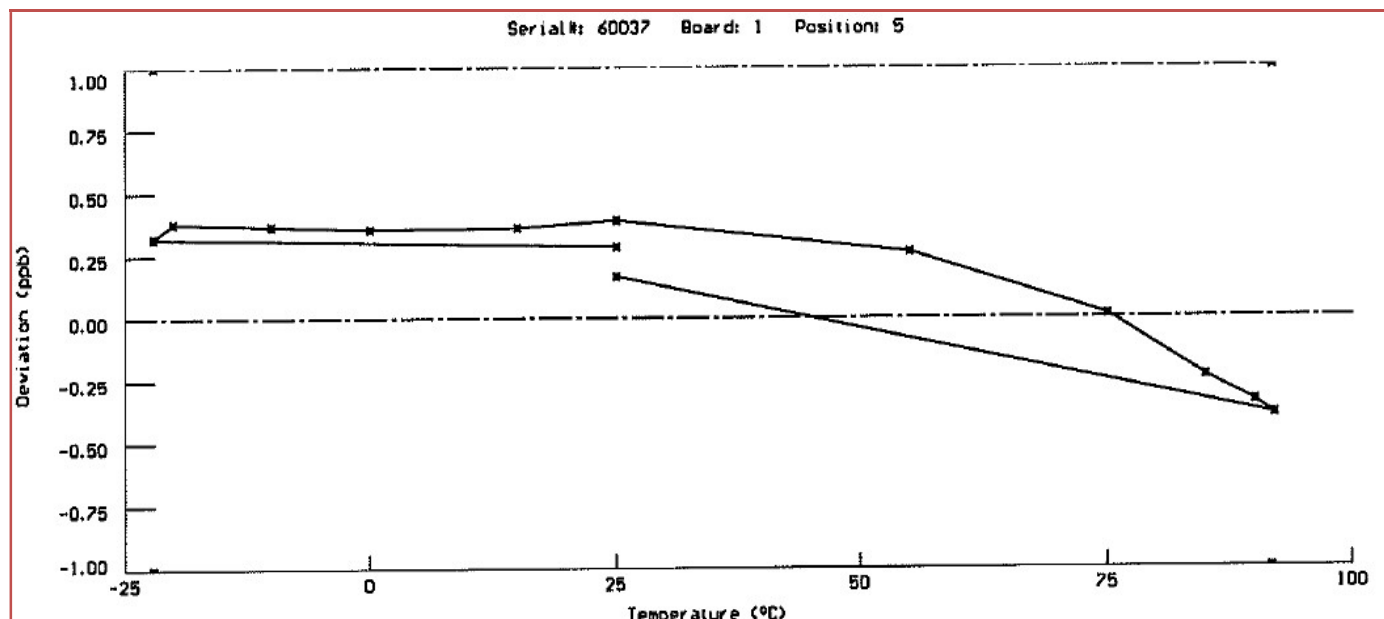
DIMENSIONS ARE SHOWN IN INCHES (MM)  
PIN NUMBERS SHOWN FOR REFERENCE ONLY

Pin	Function
1	V <sub>TUNE</sub>
2	N/C
3	Supply Voltage
4	RF <sub>OUT</sub>
5	Ground

Additional ordering options available include custom nominal frequencies (10 to 40MHz), output type ( **XO5173: Sine**, **XO5174: Logic**), aging rates, temperature ranges, temperature stabilities, phase noise requirements, g-sensitivity, and oscillators with voltage reference output on pin 2. Please contact the factory for additional information.

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Representative Temperature Stability and Phase Noise Plot (At 10MHz):



Data Sheet Revision Table:

Date	Rev.	Author	Details of Revision
07-11-18	A	DPD	Preliminary release