



Specification for an Sine Wave Thru-Hole OCXO

MtronPTI P/N: XO2011-001R

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F ₀		100.000000		MHz	
Frequency Stabilities						
Initial Tolerance		-350		+350	ppb	At nominal 2.25V EFC at the time of shipment
vs Temperature	ΔF _T /F	-25		+25	ppb	Over operating temp
Frequency vs Supply		-50		+50	ppb	Per 5% of supply change
Frequency vs Load		-150		+150	ppb	Per 10% of load change
Allen deviation				5X10 ⁻¹¹		At 1sec
Aging/1 st year		-500		+500	ppb	After 30 days continuous operation
Aging 10years		-1.2		+1.2	ppm	
Frequency Tuning (EFC)						
Tuning Voltage	V _{TUNE}	0	2.25	4.5	V	
Range	V _{TUNE}	+/-1.2		+/-2.3	ppm	
Linearity				10	%	
Slope		Positive				
RF Output						
Output Type		Sine Wave				
Output Load		45	50	55	ohm	
Output Level			7		dBm	>500mV _{RMS} into 50ohms
Temperature and Supply Voltage						
Operating Temperature	T _A	-10		+60	°C	
Storage Temperature	T _S	-40		+85	°C	
Operating Voltage	V _{DD}	4.75	5.0	5.25	V	
Operating Current				500	mA	During warmup
				180	mA	Steady State @ 25°C; no airflow
Warm-up Time				120	Seconds	Time for frequency to be within ±200 ppb of the frequency after 1 hour of operation @ 25°C following 24-hour off time
Harmonics				-20	dBc	
Spurious				-80	dBc	
Additional Parameters						
Phase Noise (static)			-92		dBc/Hz	10Hz offset
			-127		dBc/Hz	100Hz offset
			-152		dBc/Hz	1kHz offset
			-165		dBc/Hz	10kHz offset
			-168		dBc/Hz	100kHz offset

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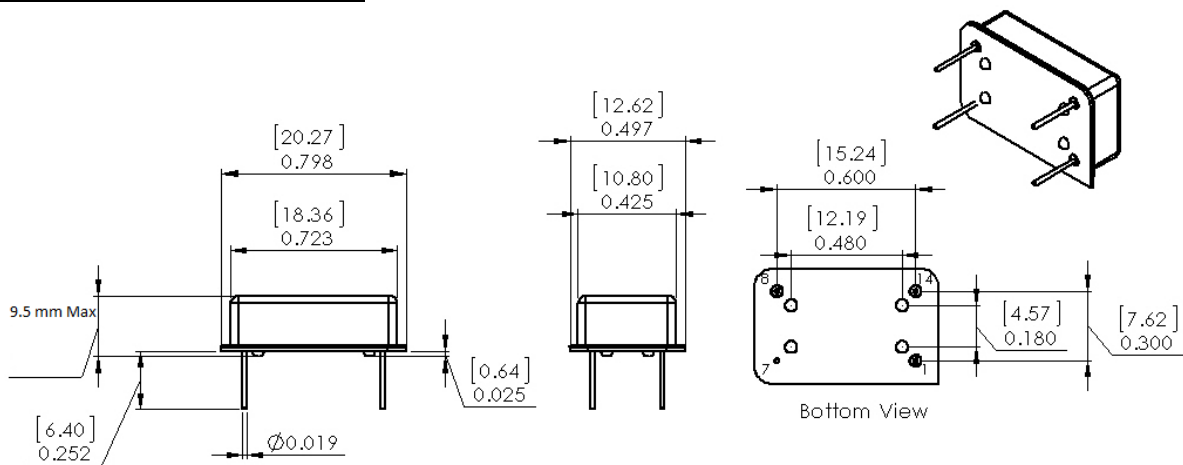
Environmental Conditions:

Sine Vibration	MIL-STD-202, Method 201 and 204, Condition A, except 5g to 2000Hz, 1 sweep each axis
Random Vibration	MIL-STD-202, Method 241, Condition I-D
Humidity	MIL-STD-202, Method 103, Condition B, 100%rh
Seal	MIL-STD-202, Method 112, Condition D
Moisture Sensivity Level	1
RoHS	YES

Mechanical and Marking Information:

Part Marking
XO2011-001R
100.000000MHz
MtronPTI
Yyww SN

Legend	
yy	Year
ww	Work Week



Pin Number	Function
1	Frequency Adjust
14	+5V
8	Signal Out
7	Ground

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES
 DECIMALS
 .XX ± .01
 .XXX ± .005

Figure 1 – Outline Drawing

Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
12-08-17	E	DPD	10-year aging spec tightened to +/- 1.2ppm and minimum tuning spec updated accordingly
07-28-17	D	DPD	10-year aging changes to +/-1.6ppm from +/- 3ppm
07-13-17	C	DPD	AD spec is a max. Added 10 year aging spec and tuning range updated.
07-12-17	B	DPD	Specifications updated based on customer feedback on Rev A.
06-29-17	A	DPD	Original Release