

Specification for an HCMOS Thru-Hole OCXO

MtronPTI P/N: XO5166-XXXX

Electrical Specifications:

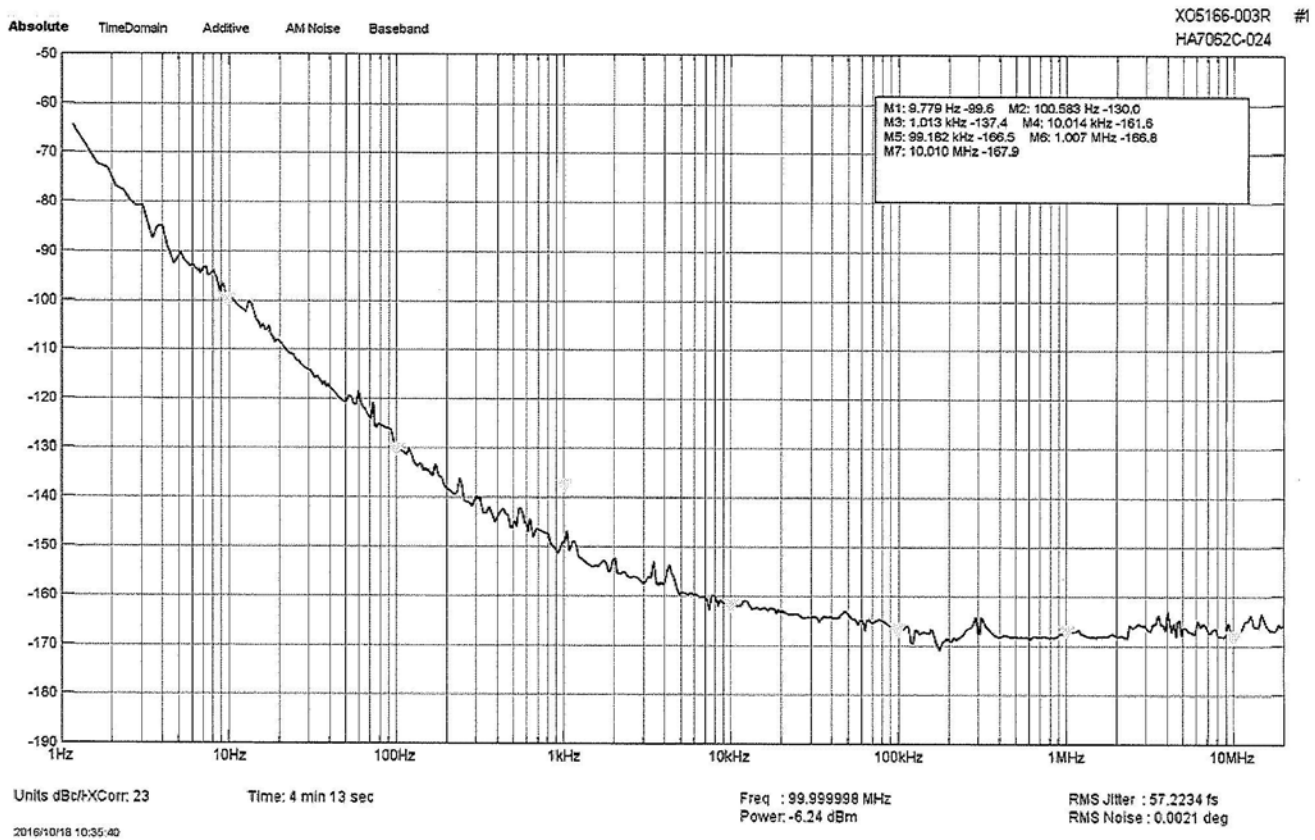
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		100.000000		MHz	
Frequency Stabilities						
Initial Tolerance		-150		+150	ppb	At nominal EFC at the time of shipment
vs Temperature	$\Delta F_T/F$	-200		+200	ppb	Over operating temp
Frequency vs Supply		-50		+50	ppb	Per 5% of supply change
Frequency vs Load		-10		+10	ppb	Per 5% of load change
Aging/1 st year		-300		+300	ppb	After 30 days continuous operation
Frequency Tuning (EFC)						
Tuning Voltage	V_{TUNE}	0	2.0	4.0	V	
Range	V_{TUNE}	+/-1		+/-3	ppm	
Linearity				5	%	
Slope		Positive				
RF Output						
Output Type		HCMOS Compatible				
Output Load			15		pF	
Symmetry (duty cycle)	T_{DC}	40	50	60	%	Ref. to $\frac{1}{2} V_{DD}$
Rise/Fall Time	T_R/T_F			6	nsec	From 10% to 90% V_{OUT}
Logic "1" Level	V_{OH}	90% V_{DD}			V	HCMOS Load
Logic "0" Level	V_{OL}			10% V_{DD}	V	HCMOS Load
Temperature and Supply Voltage						
Operating Temperature	T_A	-20		+70	°C	
Storage Temperature	T_S	-55		+125	°C	
Operating Voltage	V_{DD}	4.75	5.0	5.25	V	
Operating power				3.5	W	During warmup
				1.0	W	Steady State @ 25°C; no airflow
Warm-up Time				120	Seconds	Time for frequency to be within ± 100 ppb of the frequency after 1 hour of operation @ 25°C following 24-hour off time
Additional Parameters						
Phase Noise (static)				-95	dBc/Hz	10Hz offset
				-125	dBc/Hz	100Hz offset
				-145	dBc/Hz	1kHz offset
				-155	dBc/Hz	10kHz offset
				-160	dBc/Hz	100kHz offset

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Environmental Conditions:

Mechanical Shock	MIL-STD-202, Method 213, Condition J, 30g 11ms
Sine Vibration	MIL-STD-202, Method 201 and 204, Condition A, except 5g to 500Hz, 1 sweep each axis
Random Vibration	MIL-STD-202, Method 241, Condition I-D
Seal	MIL-STD-202, Method 112, Condition D
Altitude	MIL-STD-202, Method 105, sea level to space
Resistance to Soldering heat	MIL-STD-202, Method 210, Condition A,B,C
Terminal Strength	MIL-STD-202, Method 11, Condition C (5 bends at 45 degrees, 2lbs)
RoHS	YES

Representative Phase Noise Performance:



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Mechanical and Marking Information:

Part Marking	
Line 1	XO5166-xxxR
Line 2	100.000000MHz
Line 3	MtronPTI
Line 4	yyww

Legend	
yy	Year
ww	Work Week

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

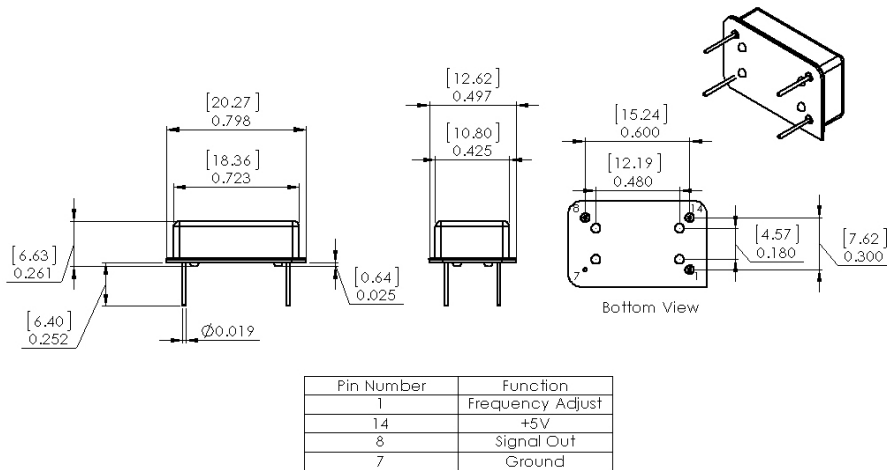


Figure 1 – Outline Drawing

Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
10-25-16	A	DPD	Original Release