

Specification for an SMD OCXO XO9014 Series

MtronPTI is introducing a XO9014 series OCXO that could be used as a timing reference for various applications that include Instrumentation, Downhole Seismic, Industrial Controls, Datacom, Utility metering and Satcom applications. XO9014 series offers temperature stability of less than +/-10.0ppb, over an operating temperature of -40°C to +85°C. Frequency Range: 10MHz to 40MHz is offered on this platform.

Key Features:

Small SMD Package
CMOS
IEEE 1588 Compatible
Low Phase Noise
Product Classification: EAR99



Ordering Information

Product Series	Temperature Range		Stability		Output Type		Package/Lead Configuration		Frequency MHz
	Code	Value	Code	Value	Code	Value	Code	Value	Value
XO9014	6	-20°C to +70°C	K	±10ppb	C	LVC MOS	N	6 Pad Leadless	*10MHz to 40MHz
	2	-40°C to +85°C	J	±20ppb					
Sample Part No. XO90142KCN10	2		K		C		N		10.000MHz

*Standard Frequencies Available

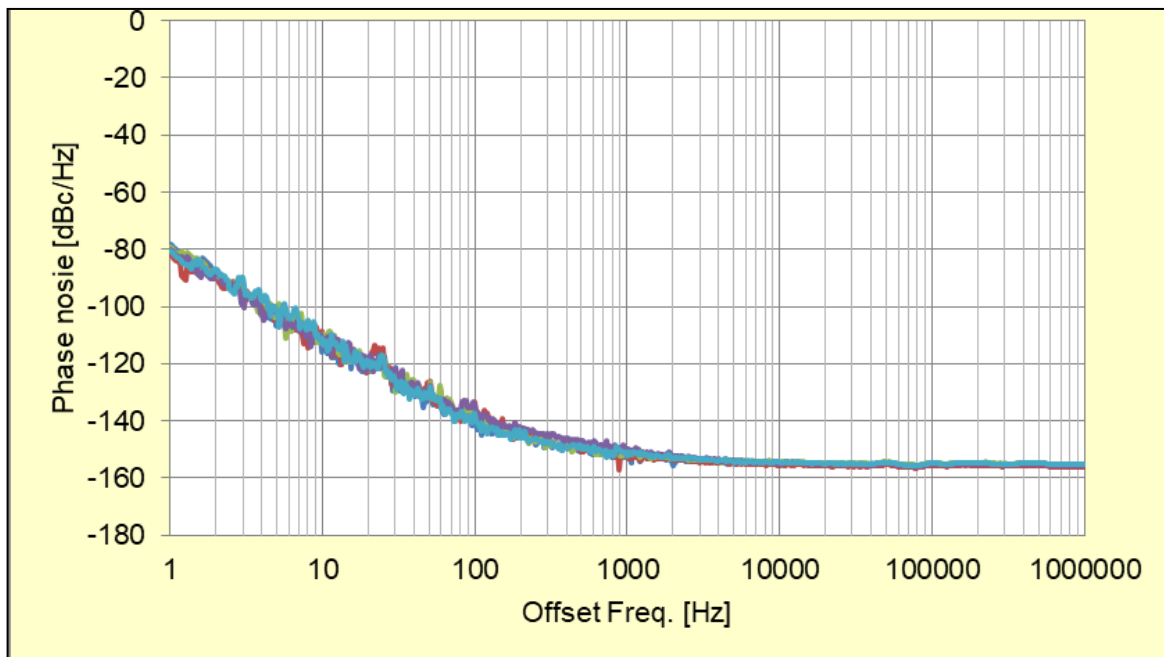
Electrical Specifications @ 10MHz:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F _O		10.000		MHz	
Frequency Stabilities						
Frequency Tolerance				500	ppb	@ +25°C, time of shipment over operating temperature range
vs. Temperature	ΔF _T /F _O		±10		ppb	
vs. Supply Voltage	ΔF _{VDD} /F _O		±5	±10	ppb	±5% change in Voltage
vs. Load		-10		+10	ppb	±10% change in load
Aging				±5	ppb/day	
				±300	ppb/yr	
RF Output						
Output Type			LVCMOS			
Output Load			15		pF	
Symmetry (duty cycle)	T _{DC}	45		55	%	@ (V _{OH} + V _{OL})/2
Logic "1" Level	V _{OH}	+3.0			V	

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Logic "0" Level	V_{OL}			+0.3	V	
Frequency Adjustment						
Control Voltage		0.3	1.5	2.8	V	
Tuning Range						
Linearity			± 1		%	
Slope		Positive				
Temperature and Supply Voltage						
Operating Temperature	T_A	-40		+85	$^{\circ}C$	
Storage Temperature	T_S	-40		+85	$^{\circ}C$	
Operating Voltage	V_{DD}	3.135	3.3	3.465	V	
Power Consumption			0.6	1.0	W	Steady state @ 25 $^{\circ}C$ In still air
			1.3	2	W	@ warm-up
Warm-up Time (Restabilization)				3	Minutes	Time to be within ± 100 ppb of the frequency after 1 hour of operation @ 25 $^{\circ}C$
Additional Parameters						
SSB Phase Noise @ 10MHz			-75		dBc/Hz	1 Hz offset
			-100		dBc/Hz	10 Hz offset
			-125		dBc/Hz	100 Hz offset
			-150		dBc/Hz	1 kHz offset
			-160		dBc/Hz	10 kHz offset

Phase Noise Plot at 19.2MHz



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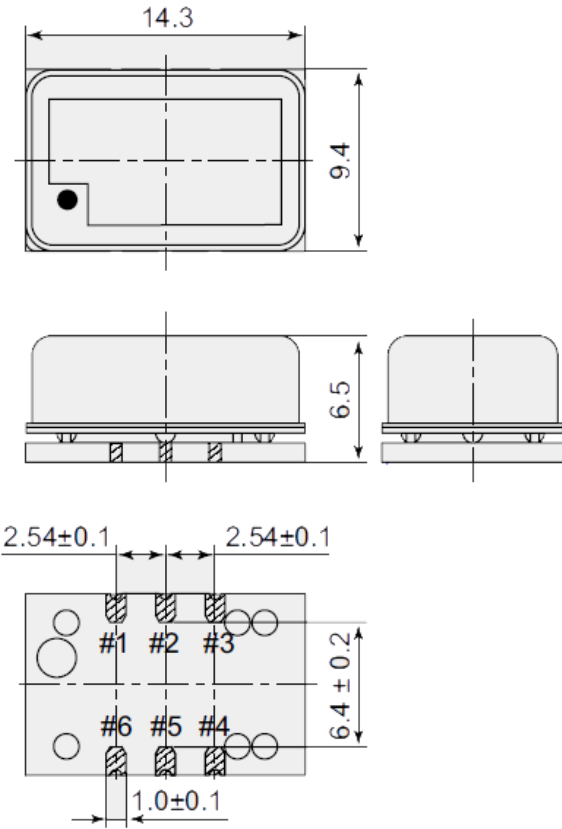
Environmental Conditions:

RoHS	RoHS Compliance
Seal	Hermetic

Mechanical, Marking and Layout Information:

Dimensions: 9.4 x 14.3 x 6.5mm; ± 0.3 mm

Pin	Function
1	V _{CONT}
2	N/C
3	GND
4	RF Output
5	N/C
6	V _{CC}



Data Sheet Revision Table:

Date	Rev.	Author.	Details of Revision
12-09-19	A	BRR/DPD	Original Release