

XO9095 Series High Frequency OCXO

Features	Applications
Low Aging Low Spurious Low Phase Noise Product Classification: EAR99 Various custom output frequencies up to 6 GHz	Electronic Warfare GPS Radar SATCOM Test Equipment

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Range	F_0	1		6	GHz	Standard Frequencies: 1GHz, 1.28GHz, 2GHz, 4GHz, 6GHz

Frequency Stabilities

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Stability	$\Delta F/F$	-100		+100	ppb	Over the operating temperature range
vs. Supply Voltage		-10		+10	ppb	5% voltage variation
Aging (After 30-days power on)		-5.0 -0.5 -2.0		+5.0 +0.5 +2.0	ppb ppm ppm	Daily 1 year 20 years
Retrace			± 100		ppb	
Allan Deviation			$1E^{-10}$			0.1 sec to 10 sec

RF Output

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Output Type		Sinewave				
Output Level		+10			dBm	
Output Load			50		Ω	$\pm 10\%$

Additional Parameters

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Control Voltage	V_c	0	± 2.25	+4.5	V	
Tuning Range			± 2.5		ppm	
Tuning Slope		Positive				

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Input Impedance		10			KΩ	At Vc pin
Modulation Bandwidth		150			Hz	
V _{REF}			4.5		V	

Phase Noise

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Phase Noise (Under Static Conditions)				-76	dBc/Hz	10 Hz Offset
				-110	dBc/Hz	100 Hz Offset
				-135	dBc/Hz	1 kHz Offset
				-151	dBc/Hz	10 kHz Offset
				-154	dBc/Hz	100 kHz Offset
Harmonics				-45	dBc	
Sub-Harmonics				-45	dBc	
Spurious				-80	dBc	
g-sensitivity				0.7	ppb/g	Worst case axis
Warm-up time			3	5	minutes	Test Condition (25°C): Oscillator turned ON after 24 hrs OFF. Frequency change 5 minutes after turn ON will be within ±0.1ppm of Long-term stable nominal frequency.
Start-up time				1	sec	Output level to be 90% of max output level

Temperature, Supply Voltage & Power Consumption

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+85	°C	Full Specification Compliance
Operating Voltage	V _{CC}	+4.75	+5.0	+5.25	V	
Power Consumption				2.0	W	Steady state @ 25°C, In Still Air
				3.0	W	@ Start-up @ 30°C

Absolute Maximum Ratings (operable only)

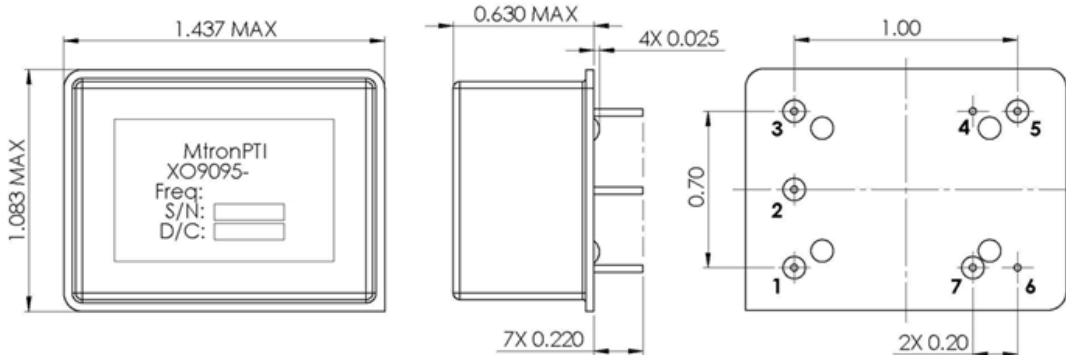
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Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Supply Voltage				+5.5	V	
Operable Temperature		-55		+85	°C	
Storage Temperature	STR	-55		+100	°C	
Output Load		45		55	Ω	

Environmental Condition

Parameter	Conditions
Seal	Hermetic
RoHS	Full RoHS Compliance
Mechanical Shock	MIL-STD-202, 30G, 11ms
Vibration	MIL-STD-202, 5G 50Hz to 2KHz 11ms

Mechanical and pin out information



PIN	FUNCTION
1	Vc
2	Vref
3	Vcc
4	GND
5	RF Output
6	GND
7	N/C or not present

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES

DECIMALS
.XX ± .01
.XXX ± .005
DO NOT SCALE DRAWING