

XO8085 Series Integrated Frequency References

Features	Applications
SWaP Multi-Output options High Stability Ultra Low Phase Noise Low g-sensitivity	Test and Measurements Satcom Radar Systems Avionics

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F ₀		100.00		MHz	

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		-30		+30	ppb	±5% voltage variation
vs. Load		-5		+5	ppb	±5% change in Load
Aging (After 30-days power on)		-5.0 -0.5 -1		+5.0 +0.5 +1	ppb ppm ppm	Daily 1 year 20 years
Retrace			±100		ppb	
Allan Deviation			1E ⁻¹⁰			0.1 sec to 10 sec

RF External Reference (10MHz)

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
RF Input Level		-3	0	+3	dBm	Customer to choose the signal level between 0 and ±3dB
RF Input Lock Range				±1	ppm	10MHz External would need to be within ±1ppm from nominal 10MHz to lock

RF Output (100MHz)

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Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Output Type		Sinewave				
Output Level		+13			dBm	
Output Load			50		Ω	±5%

Phase Noise

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Phase Noise (Under Static Conditions)				-100	dBc/Hz	10 Hz Offset
				-130	dBc/Hz	100 Hz Offset
				-158	dBc/Hz	1 kHz Offset
				-175	dBc/Hz	10 kHz Offset
				-180	dBc/Hz	100 kHz Offset
				-180	dBc/Hz	1 MHz Offset
Harmonics				-30	dBc	
Sub-Harmonics				-50	dBc	
Spurious				-80	dBc	
g-sensitivity				1	ppb/g	Worst case axis
Warm-up time				5	minutes	Test Condition (25°C): Oscillator turned ON after 24 hrs OFF. Frequency change 5 minutes after turn ON will be within ±0.05 ppm of Long-term stable nominal frequency.

Temperature, Supply Voltage & Power Consumption

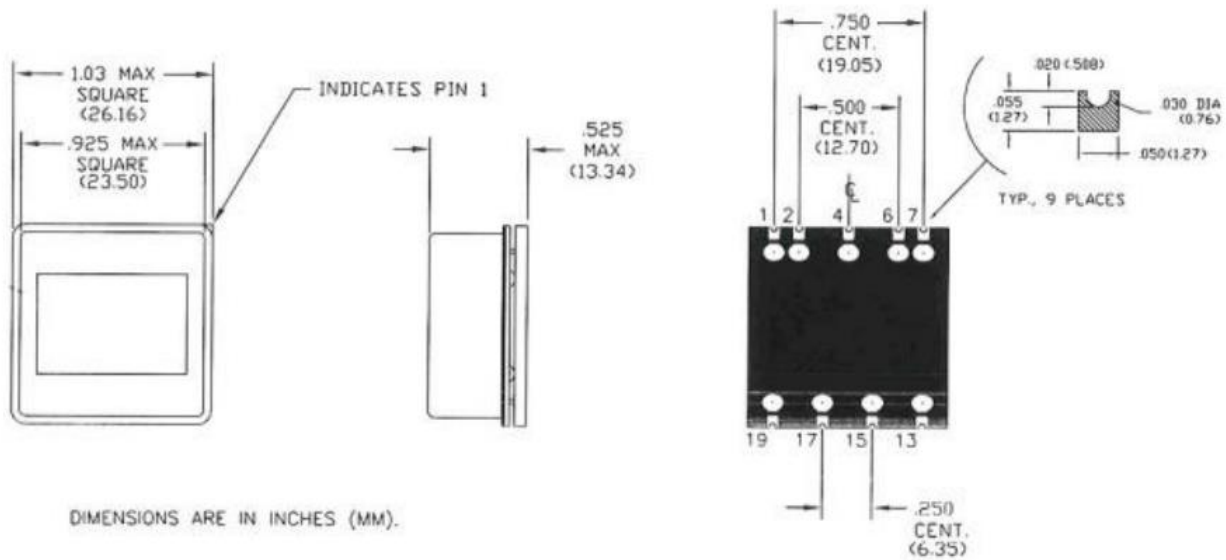
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+70	°C	Full Specification Compliance
Storage Temperature	STR	-55		+100	°C	
Operating Voltage	V _{CC}	+4.75	+5.0	+5.25	V	
Power Consumption			1.5		W	Steady state @ 25°C, In Still Air
				4.0	W	@ Start-up

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Environmental Conditions

Parameter	Conditions
Seal	Hermetic
RoHS	Full RoHS Compliance

Mechanical and pin out information



Pad	Function
1	RF Output
2	Do Not Connect
4	Case Ground
6	N/C or Ground
7	N/C or Ground
13	N/C
15	RF Input
17	Fault Indicator
19	+5V

RF Input: 10MHz (External reference)
Fault Indicator: 3.3 in Lock; 0V Out of Lock