10060HP Premium Low Phase Noise Precision SC-cut HF OCXO in 1”x1” Through Hole Package

Rev. L

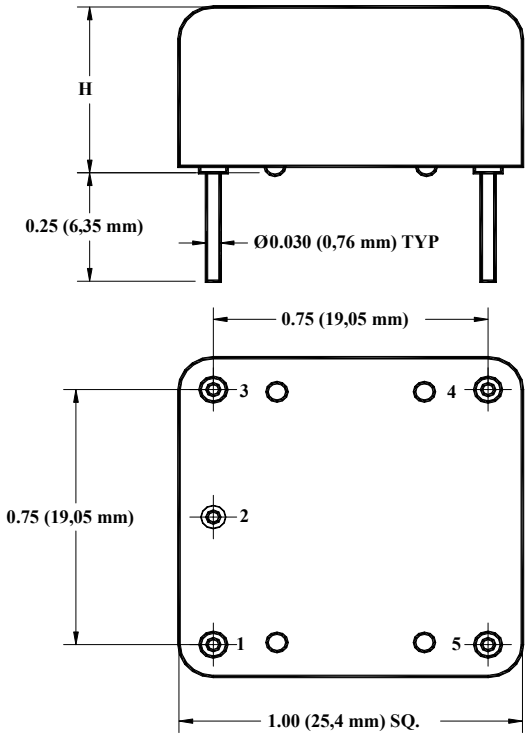
Product Data Sheet

Features

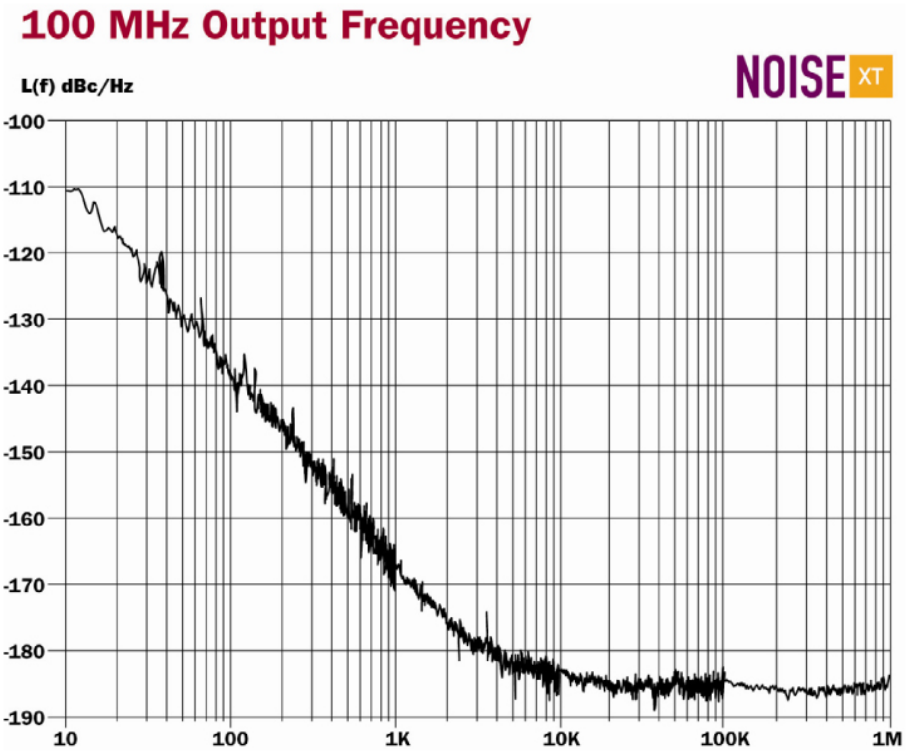
- SC-cut crystal
- Ultra Low Phase Noise
- Sine Wave +17 dBm output
- Compact package

Applications

- Telecommunication Systems
- Data Communications
- Radar
- Instrumentation



Stand-off positions may vary.



Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Maximum Ratings							
Input Break Down Voltage	Vcc		-0.5		13.0	V	
Storage temper.	Ts		-55		85	℃	
Control Voltage	Vc		-1		10	V	
Electrical (1)							
Frequency	F			100		MHz	
Frequency stability	ΔF/F	vs. Temp.			±50	ppb	-40 to +70℃
					±275	ppb	+70 to +85℃
					±2000	ppb	-55 to - 40℃
		vs. Supply			2	ppb/5% change	
		Vs. load			2	ppb/5% change	
Aging		per day per first year 10 years		5E-9 5E-7	 2.0	 ppm	After 30 days of continuous operation
Allan Deviation		.01s to 1s		5E-11			
SSB Phase Noise	£(Δf)	10 Hz 100 Hz 1 KHz 10 KHz ≥100 KHz		-105 -140 -165 -178 -180	-100 -130 -160 -172 -178	dBc/Hz	
Retrace		After 30 minutes		±20		ppb	
G-sensitivity		worst direction			±0.5	ppb/G	
Input Voltage	Vcc	12V±5%	11.4	12.0	12.6	V	
Power consumption	P	steady state, 25°C steady state, -40°C start-up		1.2 2.5 3.0	1.5 3.5	W	Still air
Spectral Purity		Output power Subharmonics Spurious Harmonics	13	17 none -35	 -80 -30	dBm dBc	Non-supply related
Load	50 Ohm (Internally AC-coupled)						
Warm-up time	τ	to 0.1ppm accuracy		3	5	minutes	
Output Waveform		Sine-wave					
Control voltage	Vc		0		10.0	V	
Pull range		from nominal F		±3.0		ppm	
Modulation Bandwidth	MBW	Vc port input LPF 3dB cut-off freq.	DC		1	KHz	Note 2
Absolute pull range	APR	Over all conditions	±0.5			ppm	
Deviation slope		Monotonic, posit		0.7		ppm/V	
Linearity			±10%				
Reference Voltage	Vref			N/A			
Setability	Vc0	@25°C, Fnom.	4.0	5.0	6.0	V	No bias

All parameters for 100.000 MHz

Note: 1. All parameters, unless otherwise specified, are at nominal conditions, ie: T=25°C, Nominal Vcc & Nominal Load.
2. Older and stock units may have MBW of 150 Hz Max.

Environmental and Mechanical

Operating temp. range	-55 to +85℃
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Thermal Shock	Per MIL-STD_883, Method 1011, Condition A
Vibration	Per MIL-STD-202, 5G to 2000 Hz
Operational vibration	Phase noise under vibration to be verified by the customer
Seal	Per MIL-STD_883, Method 1014, Cond A and Cond C
Soldering Conditions	260°C for 10s Max leads only

Electrical Connections

Pin Out	Pin #1- Output ; Pin #2 – GND; Pin #3 – Voltage Control; Pin#4 – Vref or NC; Pin#5 - Vcc