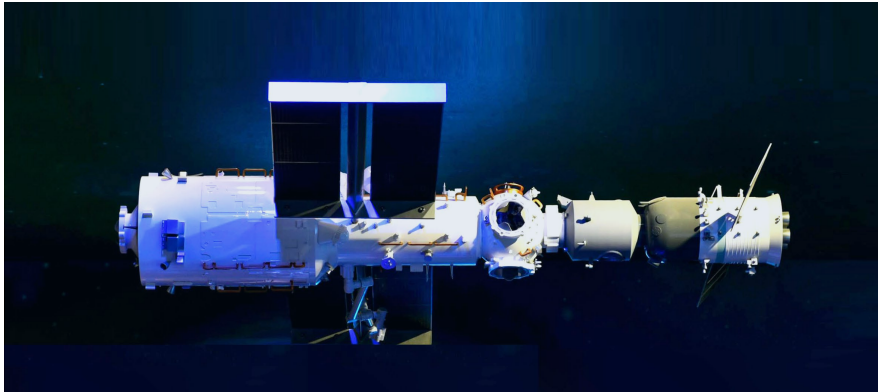




Low phase noise Crystal Oscillators

Product profile

The CX2119A is a low phase noise 10MHz thermostatic oscillator in a standard 36*27mm package that operates at temperatures ranging from -20° C to +70° C, with an aging rate of better than 5E-10/day. It has excellent near-end and far-end phase noise metrics, and is suitable for use in low-phase noise phase-locked-loop local oscillators, and for connecting to the rear of atomic clocks to greatly improve short-stability and phase noise metrics and to clean up atomic clock clutter.

Product features

- Near-end phase noise down to -110dBc/Hz@1Hz
- Frequency stability ADEV up to 1E-12 /1s
- + 12VDC power supply
- Standard 36mm×27mm Package

Application area



Wireless
base station



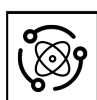
Radar



Communication



Reconnoiter

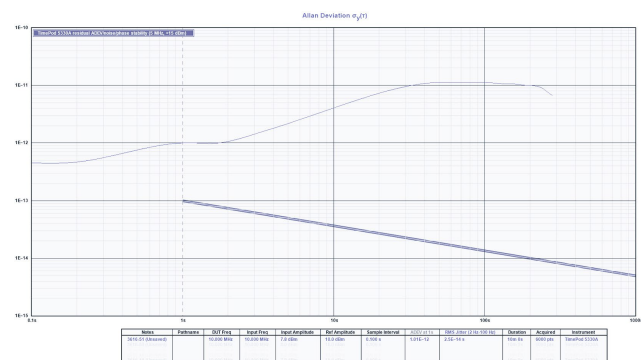


Atomic Signal
Purification
Phase-Locked
Loop

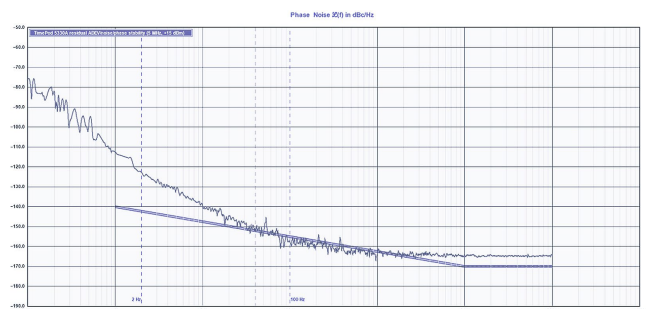


Instrumentation
Low Phase
Noise Signal
Source

Typical curve



Typical value of the frequency stability: 100ms: 5.5×10^{-13} 1s: 1.0×10^{-12}
10s: 4.0×10^{-12}



Typical values of the phase noise: 1Hz: -110dBc/Hz 10Hz: -138dBc/Hz
100Hz: -157dBc/Hz 1kHz: -162dBc/Hz
10kHz: -164dBc/Hz 100kHz: -164dBc/Hz

Test Item		Technical Indicators	
Output frequency		10MHz or 10.23MHz	
Allan variance	1s	Nominal value	Typical value
		$\leq 3 \times 10^{-12}$	1×10^{-12}
Phase noise dBc/Hz		Nominal value	Typical value
	1Hz*	≤ -100	≤ -110
	10Hz	≤ -130	≤ -137
	100Hz	≤ -150	≤ -155
	1kHz	≤ -157	≤ -161
	10kHz	≤ -160	≤ -165
	100kHz	≤ -160	≤ -165
Aging rate (Measured after 30day of continuous aging)	1day	$\leq 5 \times 10^{-10}$	
	1 month	$\leq 5 \times 10^{-9}$	
	The first year	$\leq 5 \times 10^{-8}$	
	Ten years	$\leq 2.5 \times 10^{-7}$	
Frequency control	Pressure control voltage range	0~5V, Positive slope	
	Frequency regulation range	$\geq \pm 4 \times 10^{-7}$	
Temperature frequency characteristics		$\leq \pm 3 \times 10^{-8}$	
Voltage frequency characteristics		$\leq \pm 5 \times 10^{-9}$	
Load frequency characteristics		$\leq \pm 5 \times 10^{-9}$	
Wave shape		Sine wave	
Output power		$\geq 7\text{dBm}$	
Harmonic		$\leq -30\text{dBc}$	
Clutter		$\leq -70\text{dBc}$	
Starting time		$\leq 5\text{min}$ (+25°C Atmosphere, $\pm 1 \times 10^{-6}$)	
Working temperature		$-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$	
Storage temperature		$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
Power supply		+12VDC	
Electric current		$\leq 0.5\text{A}$	
External Dimension		36mm×27mm×16mm	

External Dimension

