

DATA CENTER

Synchronization : IEEE1588 & SyncE Compliant

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A high-speed data center and edge computing and network synchronization solution

Ultra Low Jitter | Low Power Consumption | Smallest Size | Stratum 3, IEEE1588 and SyncE Compliant

As internet traffic and AI Data Center workloads grow exponentially, the need for precise timing and synchronization becomes more critical. Emerging applications, including PTP (Precision Time Protocol) and OAM (Open Accelerator Module), require low-jitter, high-stability clock sources to maintain network integrity. This results in the increasing adoption of high-precision TCXOs and OCXOs in top-of-rack switches and leaf switches for 5G networks with IEEE1588 and SyncE compliance. Taitien's Stratum 3 high-precision crystal oscillators and timing modules provide outstanding synchronization accuracy and thermal stability. These solutions are ideal for AI data centers, Smart NICs, high-speed access devices, optical communication modules, servers, and spine/leaf network switches.



Taitien Product Solution

Product Family	Product Series	Output Waveform	Product Size(mm²)	Standard Frequency	Frequency Stability	Temperature Range (°C)	Phase Noise (P/N) RMS Phase Jitter	Long Term Stability
Atomic Oscillator 	Ultra Low Power (CSAC)	CMOS	DTA-450 41.0 x 35.0	10 MHz	±1 ppb	-10 to 70°C	Typ. P/N @10 MHz -113 dBc/Hz @100 Hz -125 dBc/Hz @1 kHz -135 dBc/Hz @10 kHz	Holdover : 1.5 µs / 24hr
Timing Module 	Ultra-High Precision Miniature	CMOS	DT-5151 50.8 x 50.8	5, 10 MHz	±0.1 ppb	-10 to 70°C	Typ. P/N @10 MHz -135 dBc/Hz @100 Hz -145 dBc/Hz @1 kHz -150 dBc/Hz @10 kHz	Holdover : 1.5 µs / 24hr
OCXOs 	Stratum 3	Rectangular	NK 14.7 x 9.6 NJ 25.4 x 22 NA 25.4 x 25.4 NI 36.3 x 27.2	10, 20 MHz	±10 to 50 ppb	-40 to 85°C	Typ. P/N @20 MHz -149 dBc/Hz @100 Hz -160 dBc/Hz @1 kHz -164 dBc/Hz @10 kHz	±2 ppb/day ±0.4 ppm/year ±2 ppm/10years
VCTCXOs 	Stratum 3	Clipped Sine Wave, CMOS	TW 5.0 x 3.2 TL 5.0 x 3.2 TT 7.0 x 5.0	10, 19.2, 20 MHz	±0.28 ppm	-40 to 85°C	Typ. P/N @19.2 MHz -115 dBc/Hz @100 Hz -135 dBc/Hz @1 kHz -148 dBc/Hz @10 kHz	±1 ppm/1 st year
XOs 	Fast Delivery	CMOS	PY-U 2.5 x 2.0 PX-U 3.2 x 2.5	24, 25, 100, 125 MHz	±15 to 50 ppm	-40 to 105°C	Typ. 0.8 ps; 12 kHz to 20 MHz	
		Differential	OA-M 3.2 x 2.5 OW-M 5.0 x 3.2 OJ-M 5.0 x 3.2 OT-M 7.0 x 5.0 OD-M 7.0 x 5.0	156.25, 312.5MHz	±25 to 50 ppm	-40 to 85°C	Typ. P/N @156.25 MHz -156 dBc/Hz @10 MHz Typ. 0.12 ps; 12 kHz to 20 MHz	
	Ultra Low Jitter	CMOS	OZ 2.0 x 1.6 OY 2.5 x 2.0 OX 3.2 x 2.5	32.768kHz, 25, 40, 48, 50, 80, 125 MHz	±20 to 50 ppm	-40 to 125°C	Typ. P/N @50 MHz -168 dBc/Hz @100 kHz -168 dBc/Hz @1 MHz Typ. 0.07 ps; 12 kHz to 20 MHz	
		Differential	OB 2.5 x 2.0 OA 3.2 x 2.5	100, 125, 156.25 MHz	±25 to 50 ppm	-40 to 125°C	Typ. P/N @156.25 MHz -155 dBc/Hz @100 kHz -160 dBc/Hz @1 MHz Typ. 39 fs; 12 kHz to 20 MHz	
XTALs 	Miniature		XZ 2.0 x 1.6 XY 2.5 x 2.0 XX 3.2 x 2.5	25, 50 MHz	±5 to 50 ppm	-40 to 125°C		
	kHz		XD 3.2 x 1.5	32.768 kHz	±20 ppm	-40 to 125°C		

Note : Not all combinations are available. Detailed specifications are available upon request.

About TAITIEN:

Taitien is a leading global manufacturer of frequency control products and offers a wide range of quartz crystals, oscillators, VCXOs, TCXOs, OCXOs, precision crystals, and thickness monitor crystals. The company is ISO 9001 and IATF 16949 certified, with design and application engineering resources in Taiwan, China, and the United States.

Taitien was founded in 1976 as one of the original manufacturers of the tuning fork. In the early 1990s, Taitien became a primary VCXO supplier for major telecommunication companies. In the following years, Taitien invested significant resources into R&D, becoming one of the leading producers of surface mount oscillators with CMOS and LVPECL outputs. To this day, Taitien continues to operate as a top tier manufacturer in the FCP industry, offering leading edge solutions to its customers worldwide.

