

±1 ppb stability, ±10 ppt/°C dF/dT

24 hours of holdover, aging compensated

Smallest in class, 9.0 x 7.0 x 3.6 mm

Unmatched ease-of-use



Critical network infrastructure relies on nanosecond time accuracy to keep people, businesses, and industries connected. SiTime's Epoch Platform™ MEMS OCXOs maximize service continuity with best-in-class holdover in real world environments. Designed to solve long-standing problems of quartz OCXOs, they are resilient to thermal shock, airflow, and vibration. Epoch Platform MEMS OCXOs both enable new applications and simplify the design process with 25x less volume and 3x lower power, in addition to leading environmental resilience which eliminates the need for a protective cover. SiTime's silicon manufacturing process ensures the highest quality with shorter lead times for a robust supply chain.

Benefits

- 2x better service continuity with environmental resilience
- Enable new applications with 25x less volume, 9x smaller footprint, and 3x lower power
- Simplify and expedite design/manufacturing by eliminating placement constraints and shielding requirements

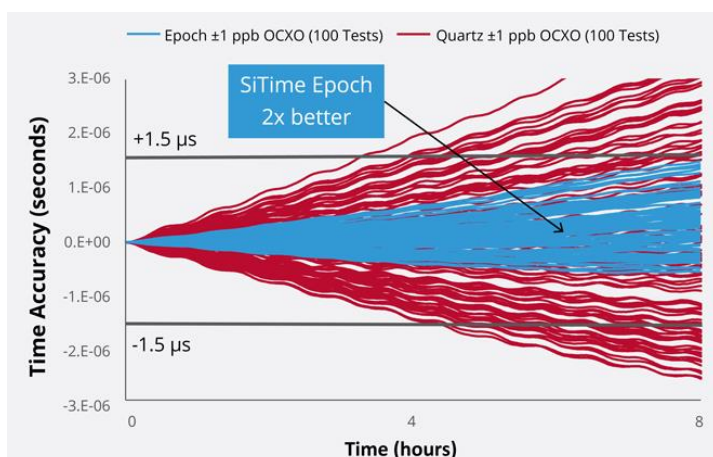
Applications

- 5G DU, CU
- Macro Base Stations
- Datacenter Servers, Routers
- IEEE 1588 Boundary Clocks and Grandmasters
- Carrier Class Routers
- Optical Transport
- Fronthaul Switches
- Test Instrumentation
- ITU-T G.8273.2 Class D

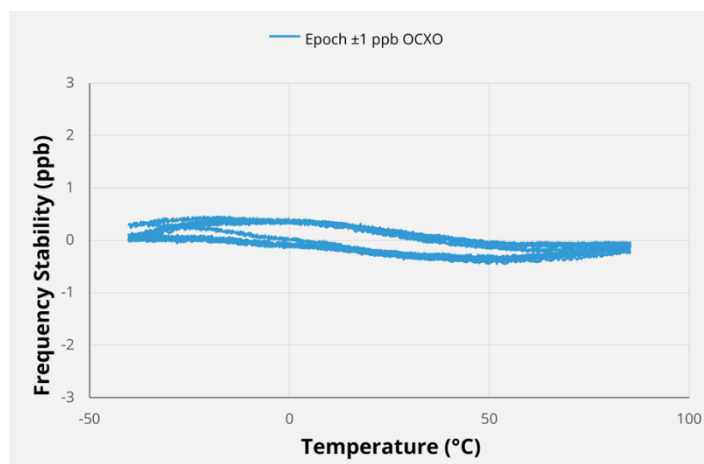
Features

- Up to 24 hours of holdover with compensation (±1.5 µs)
- Up to 12 hours of holdover natively (±1.5 µs), 8 hours in dynamic conditions (8°C temperature change & 1 m/s airflow)
- Exceptional dynamic stability under fast temp ramp, airflow
 - ±1, ±3, ±5 ppb over-temp stability
 - ±10 to ±40 ppt/°C frequency slope (dF/dT)
 - 4e-12 HDEV at 10 seconds averaging time, under airflow
- Widest temperature range in class, -40°C to 95°C
- As low as ±0.09 ppb daily aging
- Ultra-low 420 mw steady state power consumption
- Compact 9.0 x 7.0 x 3.6 mm package
- Fully digital I²C and SPI frequency tuning, ±0.05 ppt pulling resolution
- On-chip regulators for power supply noise filtering
- Programmable platform, any frequency from 10 to 220 MHz
- LVCMOS or clipped sinewave output
- No activity dips or micro jumps

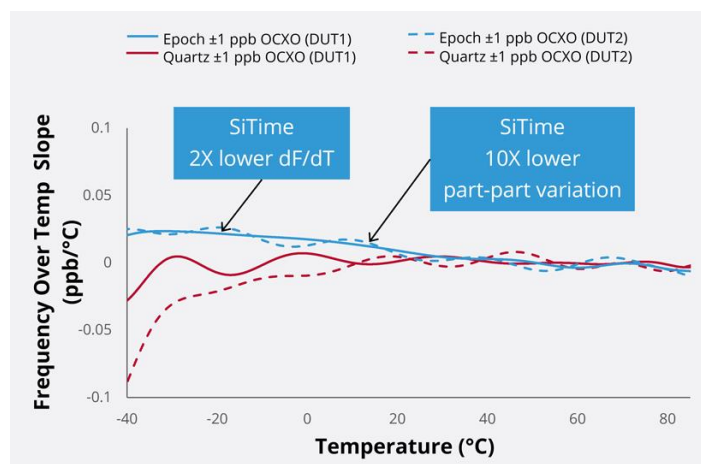
Time Holdover Under Temperature Change and Airflow



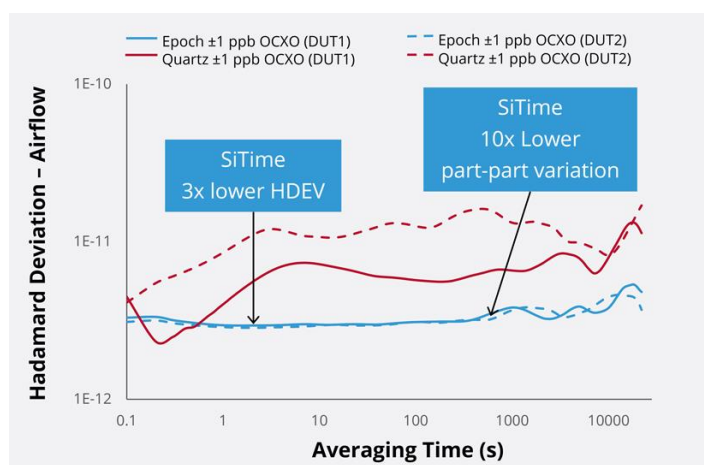
Frequency Stability



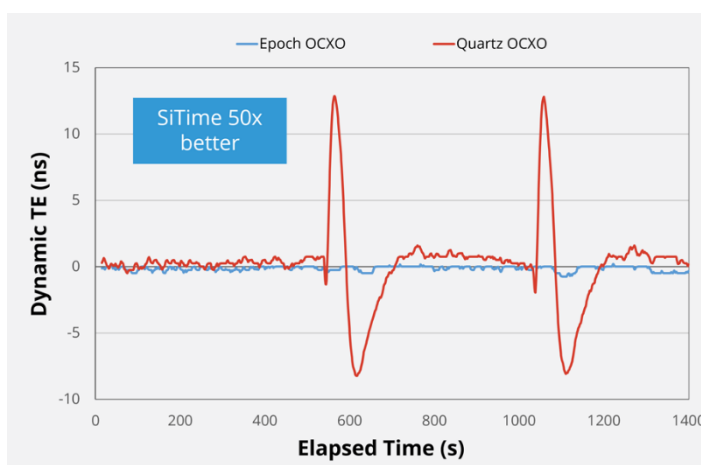
Frequency Over Temperature Slope (dF/dT)



Hadamard Deviation (HDEV) under Airflow



Dynamic Time Error



Device*	Frequency (MHz)	Holdover (1.5μs)	Stability (ppb)	Temp. Range (°C)	Supply Voltage (V)	Package Size (mm x mm x mm)	Digital Control
SiT5801	10 to 60	8 hours, 12 hours (compensated)	±3, ±5 ppb	-20 to 70, -40 to 85, -40 to 95	2.5, 2.8, 3.3	9.0 x 7.0 x 3.6	I²C, SPI
SiT5802	60 to 220						
SiT5811	10 to 60	12 hours, 24 hours (compensated)	±1 ppb				
SiT5812	60 to 220						

SiTime is a leader in MEMS timing solutions. We combine innovative MEMS and programmable analog technologies with our systems expertise to industry-best products that overcome the limitations of legacy quartz products. Our configurable products provide ultra-stable timing that enables customers to differentiate their systems with higher performance, small size, and better reliability.