

- ± 0.5 ppm stability at 105°C
- No activity dips or micro-jumps
- 0.1 ppb/g, resistant to vibration



SiTime's precision oscillators, based on the Elite Platform™, set new benchmarks in performance, high accuracy positioning, and reliability for GNSS applications. Leveraging SiTime's revolutionary DualMEMS™, noiseless temperature sensing and TurboCompensation™ architecture, these devices deliver unmatched environmental robustness, ensuring fastest lock to satellites in the presence of shock, vibration, rapid temperature change, power supply noise and electromagnetic interference (EMI).

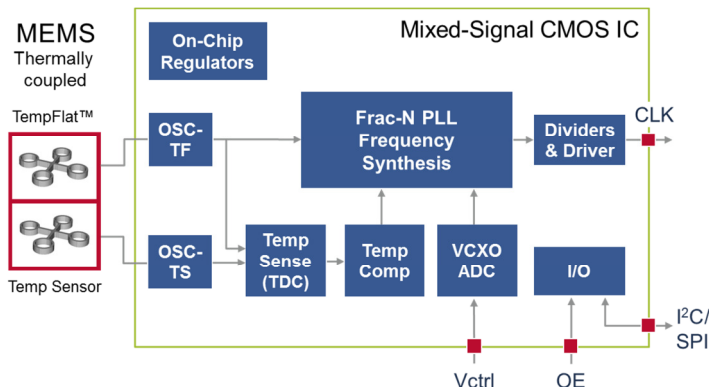
Benefits

- Maintains stable link under vibration, temp ramp, or airflow
- Prevents loss of satellite lock by eliminating micro-jumps
- Operates with high performance, reliability, and high accuracy

Applications

- GNSS Tracking
- Autonomous Vehicles
- Surveying
- Agriculture
- Military & Aerospace
- Communications
- Oil & gas exploration
- Construction & Mining

Architecture

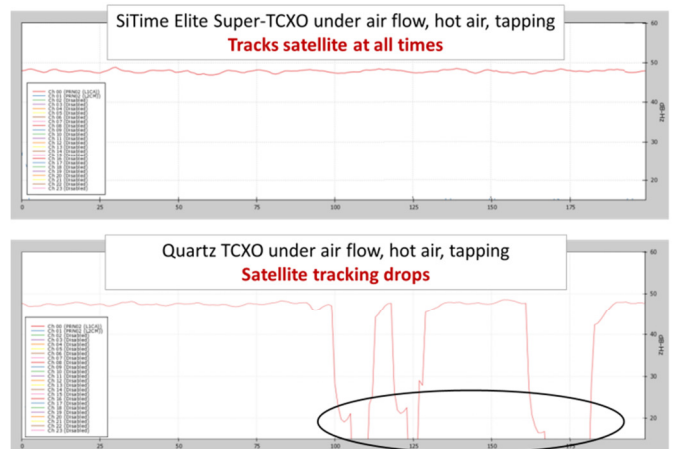


Patented architecture with DualMEMS, noiseless temperature sensing and TurboCompensation

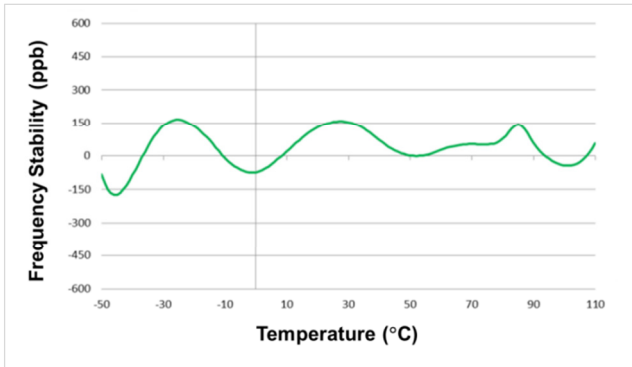
Features

- No activity dips or micro-jumps
- 0.1 ppb/g, resistant to vibration
- On-chip regulators, eliminating the need for an external LDO
- Up to 105°C operating temperature
- Guaranteed stability under airflow and fast temp ramp
 - 3e-11 ADEV at 10 second averaging time
 - ± 8 ppb/°C frequency slope ($\Delta F/\Delta T$), 10°C/min ramp
- Any frequency from 1 MHz to 220 MHz
- 0.1% frequency tuning linearity under all conditions
- I²C frequency tuning, eliminating external DAC
- FlexEdge™ configurable rise/fall time for best EMI reduction
- AEC-Q100 compliance

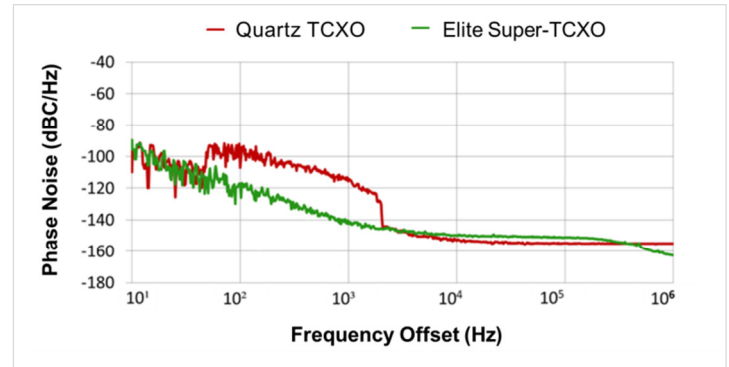
Elite Super-TCXO Improves GNSS Robustness



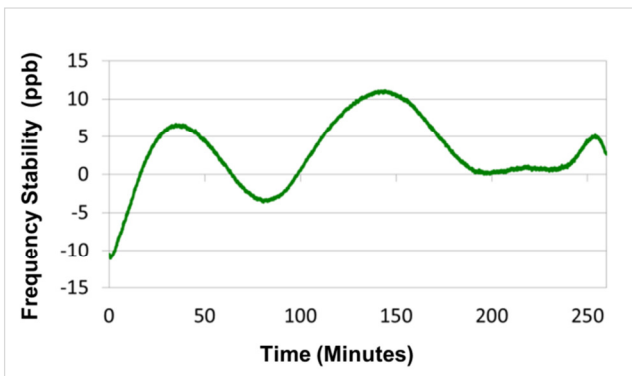
Best Frequency Stability;
Up to 10°C/Minute Temperature Ramp



Best Vibration Performance



No Activity Dips or Micro Jumps



Best Allan Deviation (ADEV) in Still Air and Under Airflow



Device Type	Device	Frequency (MHz)	Temp. Range (°C)	Stability (ppm)	Output Type	Package Size (mm)	AECQ-100
Super-TCXO	SiT5155	13 std. freq.	-20 to 70 -40 to 85 -40 to 105 ^[1]	±0.5 to ±5 ^[2]	LVCMOS, Clipped Sine Wave	5.0 x 3.2	-
	SiT5156	1 to 80					-
	SiT5157	80 to 220					-
	SiT5186	1 to 80					✓
	SiT5187	80 to 220					✓
Precision Super-TCXO	SiT5356	1 to 60	-20 to 70 -40 to 85 -40 to 105 ^[1]	±0.1 to ±0.25 ^[2]	LVCMOS, Clipped Sine Wave	5.0 x 3.2	-
	SiT5357	60 to 220					-
	SiT5386	1 to 60					✓
	SiT5387	60 to 220					✓
Differential Oscillator	SiT9120	31 std. freq.	-20 to 70 -40 to 85	±10 to ±50 ^[2]	LVPECL, LVDS, HCSL	3.2 x 2.5 5.0 x 3.2 7.0 x 5.0	-
	SiT9121/22	10 to 220					-

1. Contact [SiTime](#) for 95°C and 105°C products. 2. Contact [SiTime](#) for tighter stability options.

SiTime, a MEMS and analog semiconductor company, is the leader in MEMS-based frequency-control solutions. We combine innovative MEMS and programmable analog technologies with our systems expertise to break through the limitations of legacy quartz products and deliver the industry's best timing solutions. Our configurable products provide the most stable timing that enables customers to differentiate their systems with higher performance, small size and better reliability.