

- $\pm 100$  ppb stability with frequency tuning
- $\pm 1$  ppb/ $^{\circ}\text{C}$   $\Delta F/\Delta T$  at  $10^{\circ}\text{C}/\text{min}$  ramp
- $0.1$  ppb/ $g$ , vibration resistant



SiTime's precision oscillators, based on the Elite Platform™ set new benchmarks in dynamic performance, environmental immunity and reliability for small cell, synchronous Ethernet and time synchronization. Leveraging SiTime's revolutionary DualMEMS™ noiseless temperature sensing and TurboCompensation™ architecture, these devices deliver the most stable timing in the presence of common environmental hazards – airflow, temperature perturbation, vibration, shock, power supply noise, and electromagnetic interference (EMI).

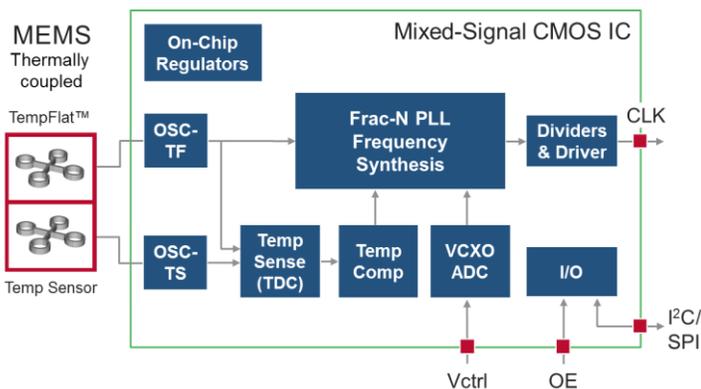
### Benefits

- Reduce dropped calls and link loss under all conditions
- Minimize time error in time synchronization applications
- Simplify system design with best features / performance
- Prevent system shutdown, functional up to  $125^{\circ}\text{C}$

### Applications

- IEEE 1588
- SyncE
- IoT infrastructure
- 5G fronthaul & backhaul
- Small cell
- Smart grid equipment

### Architecture

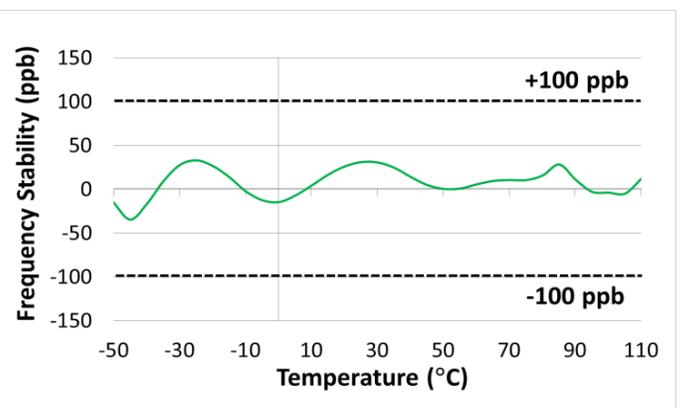


Patented architecture with DualMEMS, noiseless temperature sensing and TurboCompensation

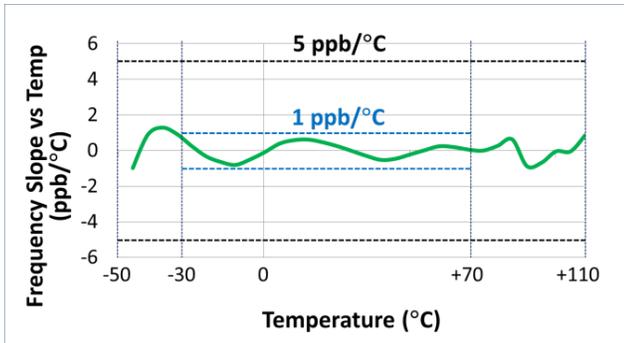
### Features

- Exceptional dynamic stability under airflow, fast temp ramp
  - $\pm 100$  ppb over-temp stability
  - $3e-11$  ADEV at 10 second averaging time
  - $\pm 1$  ppb/ $^{\circ}\text{C}$  frequency slope ( $\Delta F/\Delta T$ ),  $10^{\circ}\text{C}/\text{min}$  ramp
- No activity dips or micro-jumps
- $0.1$  ppb/ $g$ , resistance to vibration
- On-chip regulators, eliminating the need for an external LDO
- Up to  $105^{\circ}\text{C}$  operating temperature
- Frequency from 1 MHz to 220 MHz
- $0.1\%$  frequency tuning linearity under all conditions
- I<sup>2</sup>C frequency tuning, eliminating external DAC

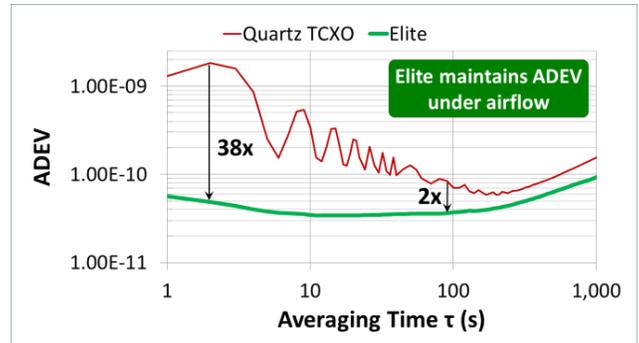
### Elite Super-TCXO Frequency Stability



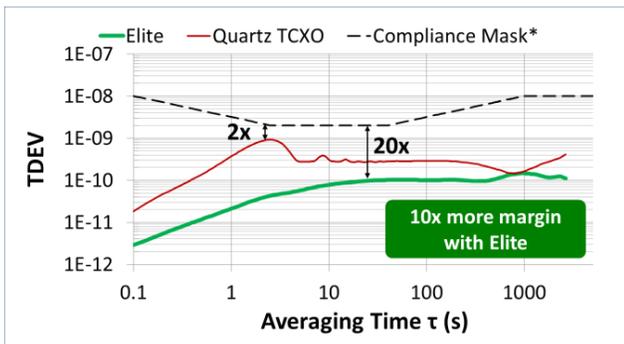
**Best Dynamic Frequency Stability;**  
Up to 10 °C/Minute Temperature Ramp



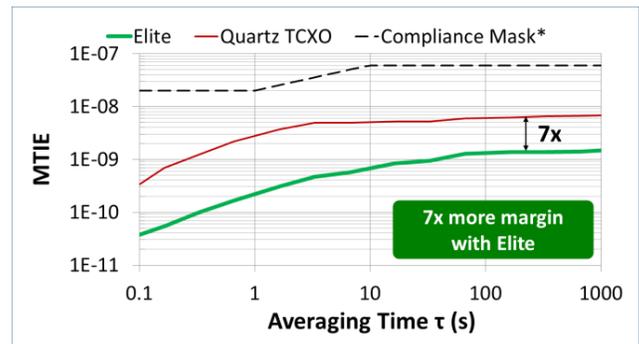
**Best Allan Deviation (ADEV)**  
in Still Air or under Airflow



**Best Time Deviation (TDEV)**  
in Still Air or under Airflow



**Best Maximum Time Interval Error (MTIE)**  
in Still Air or under Airflow



\*ITU-T G.8262 Option 2 0.1 Hz BW

Device Type	Device	Frequency (MHz)	Temp. Range (°C)	Stability <sup>[2]</sup> (ppm)	Output Type	Package Size (mm)
Precision Super-TCXO	SiT5358, SiT5359	1 to 220	-20 to 70	±0.05	LVCMOS, Clipped Sine Wave	5.0 x 3.2
	SiT5356, SiT5357		-20 to 70	±0.1 to ±0.25		
Super-TCXO	SiT5156, SiT5157	12 std. freq.	-40 to 85	±0.5 to ±2.5		
	SiT5155		-40 to 105 <sup>[1]</sup>			
Differential Oscillator	SiT9365	32 std. freq.	-20 to 70, -40 to 85, -40 to 95 <sup>[1]</sup>	±10 to ±50	LVPECL, LVDS, HCSL	3.2 x 2.5, 7.0 x 5.2
	SiT9366, SiT9367	10 to 725				
Differential VCXO	SiT3372, SiT3373	10 to 725				

1. Contact [SiTime](#) for 95°C and 105°C products. 2. Contact [SiTime](#) for tighter stability options. 3. Contact [SiTime](#) for Automotive grade.

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.