

50,000 g Shock and 70 g Vibration Resistance

-55°C to 125°C Operating Temperature Range

1 Billion Hour MTBF



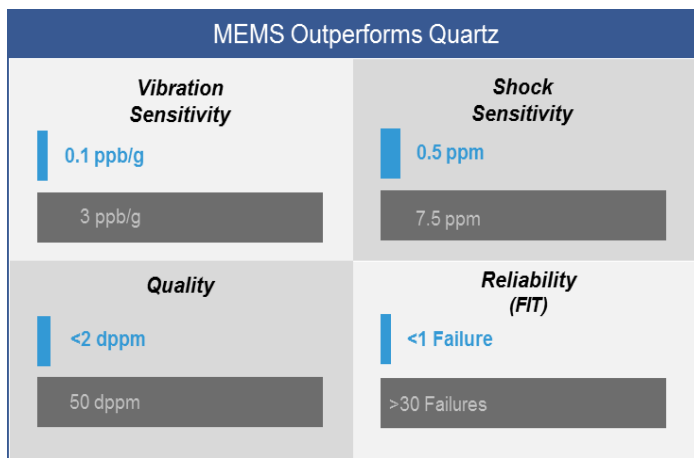
SiTime’s MEMS oscillators set new benchmarks in dynamic performance, environmental immunity, and high reliability in all environments. Our revolutionary technology allows for robust and durable oscillators, delivering the most stable timing while operating under demanding conditions – airflow, temperature perturbation, vibration, shock, power supply noise, and electromagnetic interference (EMI).

Benefits

- Accurate timing in extreme environments due to best frequency stability over temperature, shock/vibration immunity, and highest quality
- Perfect solution for any application with combination of frequency, stability, and voltage to ensure the
- Minimal need for maintenance and calibration due to industry leading aging and drift

Applications

- Command/Control
- Avionics & Drones
- Satellite/GNSS
- Industrial Robotics
- IOT Sensors
- Telemetry



■ SiTime ■ Quartz

Features

Highest robustness and reliability

- ±500 ppb 20 year aging
- 0.1 ppb/g low vibration sensitivity
- 50,000 g shock, 70 g vibration resistance
- 1 billion hour MTBF, <1 FIT

Exceptional dynamic stability under airflow, fast temp ramp

- ±1 ppb/°C frequency slope ($\Delta F/\Delta T$), 10°C/min ramp
- 3e-11 ADEV at $\tau = 10$ seconds, under still air and airflow
- No activity dips or micro jumps

Maximum flexibility with factory programmable devices

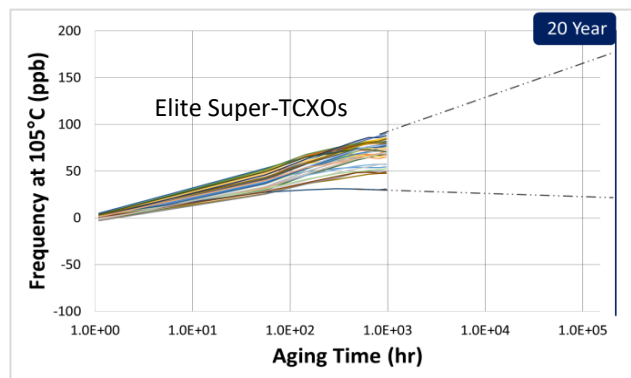
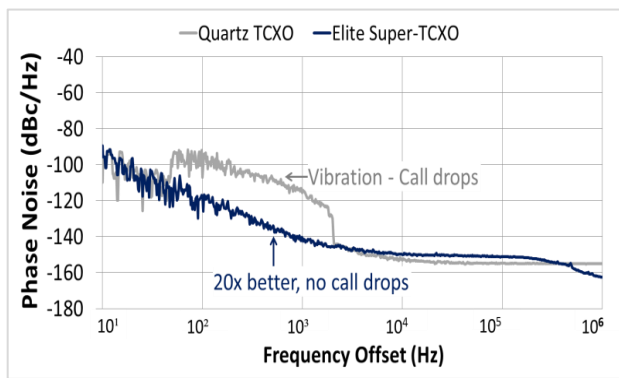
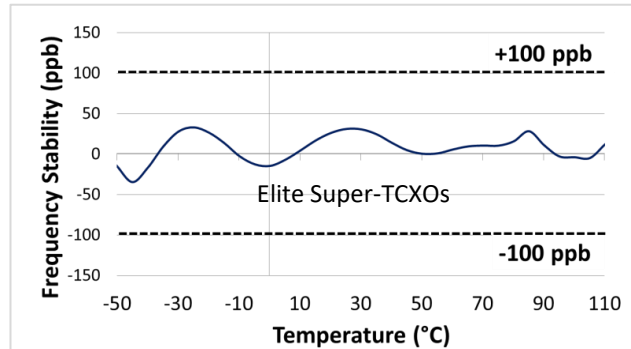
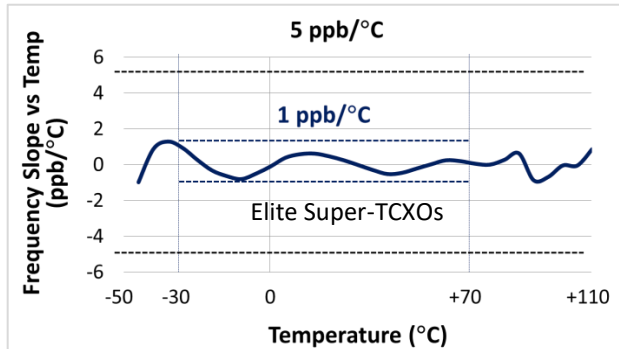
- 32 kHz to 725 MHz (any frequency)
- ±0.1 ppm to ±150 ppm over temp stability
- -55°C to 125°C maximum operating temperature range
- On-chip regulators eliminate the need for an external LDO

Integrated MEMS resonator, quartz free

- MEMS resonator encapsulated in silicon at 1100°C
- Resonator designed to never age or fatigue
- Ultra-low mass, immune to shock and vibration

Contact **SiTime** for MIL Grade device compliant to 55310 (MIL 883, Class B screening options)





Device Type	Device	Frequency	Temp. Range (°C)	Stability (ppm)	Output Type	Package Size (mm)
Super-TCXOs	SiT5356/7	1 to 220 MHz	-20 to 70	±0.1 to ±2.5	LVCMOS Clipped Sine Wave	5.0 x 3.2
	SiT5155		-40 to 85			
	SiT5156/7		-40 to 105			
Differential Oscillator	SiT9365	32 std. freq.	-20 to 70 -40 to 85	±10 to ±50	LVPECL LVDS HCSL	3.2 x 2.5 5.0 x 3.2 7.0 x 5.2
	SiT9366/7	10 to 725 MHz	-40 to 95 -40 to 105			
Military Temp Oscillators	SiT8918/9	1 to 137 MHz	-40 to 105 -40 to 125	±20 to ±50	LVCMOS	2.0 x 1.6 2.5 x 2.0 3.2 x 2.5 5.0 x 3.2 7.0 x 5.0
	SiT8920/1		-55 to 125			
32 kHz Oscillators	SiT1630	32.768 kHz	-10 to 70 -40 to 85 -40 to 105	±75 to ±150	LVCMOS NanoDrive™	2.0 x 1.2 SOT23-5
In-System Programmable	SiT3521	1 to 340 MHz	-20 to 70 -40 to 85	±25 to ±50	LVPECL LVDS HCSL	5.0 x 3.2

1. Contact SiTime for MIL Grade Compliance.

Mechanical shock resistance under conditions MIL-STD-883F, Method 2002. Mechanical vibration under conditions MIL-STD-883F, Method 2007.

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.