

- ± 20 ppm stability from -55 to 125 °C
- Industry best G-sensitivity of 0.1 ppb/g
- 17 dB EMI reduction without PCB change



SiTime's AEC-Q100 automotive oscillators deliver the highest performance, reliability and robustness, making them ideal for replacing legacy quartz oscillators in ASIL (Automotive Safety Integrity Level) compliant automotive systems. Our MEMS solutions are engineered to guarantee the best frequency stability, jitter and power supply noise rejection under environmental stressors such as rapid temperature changes, airflow, shock, vibration, and noisy power supplies.

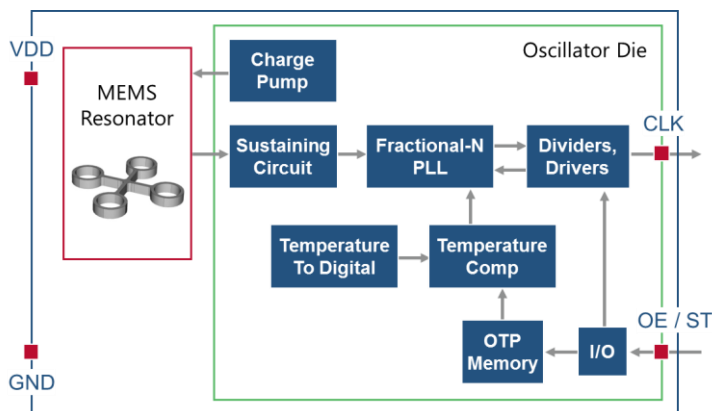
Benefits

- Maintain performance in harsh and noisy environment
- Reduce EMI without component re-qualification
- Minimize size with smallest package
- Optimize design with programmable frequencies

Applications

- Around view cameras
- In-vehicle Ethernet
- Lidar/Radar
- Infotainment systems
- Electronic control units (ECUs)
- Multimedia hubs
- Forward collision warning
- Emergency braking systems

Architecture



Features

- AEC-Q100 Grade 1 to 4 compliant
- ± 20 ppm frequency stability from -55°C to 125°C
- Any frequency between 1 to 725 MHz
- LVCMOS, LVPECL, LVDS and HCLS output types
- Two drop-in EMI reduction options
 - Configurable rise/fall time and drive strength
 - Programmable spread spectrum
- Industry best G-sensitivity of 0.1 ppb/g
- Best shock resistance at 10,000 g
- Best vibration resistance at 70 g
- Highest reliability at over 1 billion hours MTBF (< 1 FIT)
- Low power consumption of 3.8 mA typ. at 1.8V
- RoHS and REACH compliant, Pb-free, Halogen-free and Antimony-free

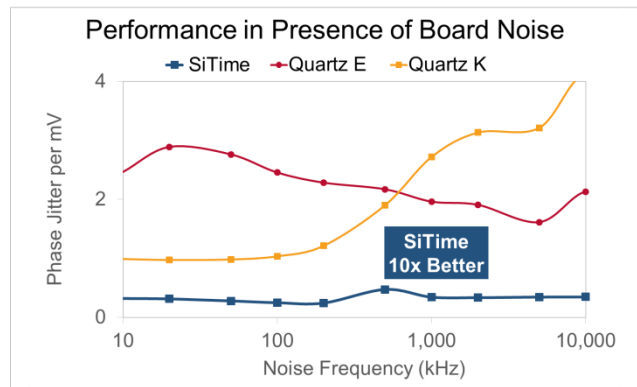
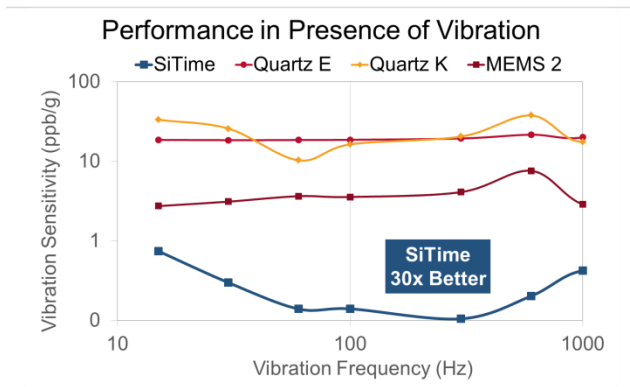
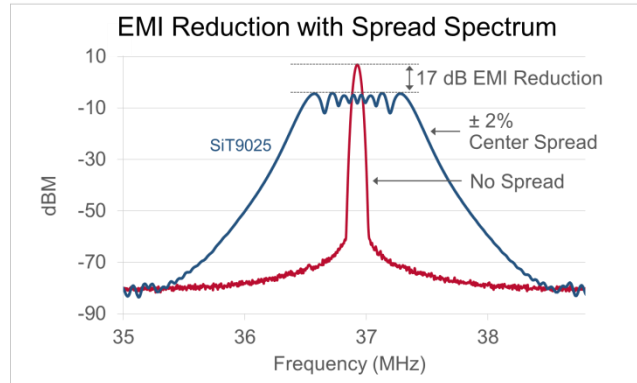
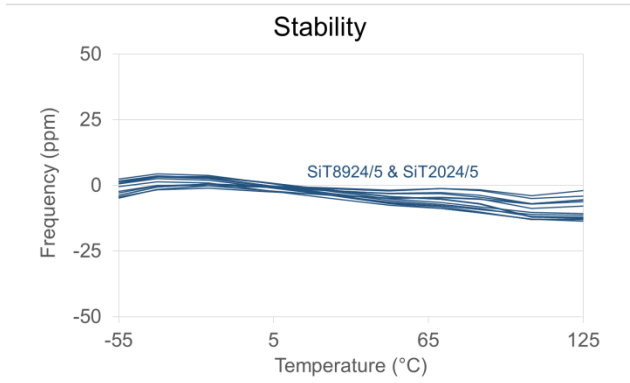
Package Options (shown actual size)

Pin-compatible QFN oscillator packages



Leaded package for best solder joint reliability





Device Type	Device	Frequency	Temp. Range (°C)	Stability (ppm)	Output Type	EMI Reduction Feature	Package Size (mm)
QFN Oscillators	SiT8924 ^[1]	1 to 110	-40 to 85, -40 to 105, -40 to 125, -55 to 125	±20, ±25, ±30, ±50	LVCMOS	8 output drive strength options	QFN: 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
	SiT8925 ^[1]	115.2 to 137					
SOT23 Oscillators	SiT2024 ^[1]	1 to 110					SOT23-5: 2.9 x 2.8
	SiT2025 ^[1]	115.2 to 137					
Differential Oscillators	SiT9386 ^[1,2,3]	1 to 220	-20 to 70, -40 to 85, -40 to 95	±25, ± 50	LVPECL, LVDS, HCSL	-	QFN: 3.2 x 2.5, 7.0 x 5.0
	SiT9387 ^[1,2,3]	220 to 725					
EMI Reduction Oscillators	SiT9025 ^[2]	1 to 150	-40 to 85, -40 to 105, -40 to 125, -55 to 125	±20, ±25, ±50	LVCMOS	48 spread options up to ±2.0%, down to -4.0%	QFN: 2.0 x 1.6, 2.5 x 2.0, 3.2 x 2.5

1. Contact SiTime for $\leq \pm 10$ ppm stability options. 2. Contact SiTime for AEC-Q100 compliance status. 3. Contact SiTime for 95°C & 105°C products.

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.