SiTime

THE PRECISION TIMING COMPANY

MEMS Timing Solutions for

Automotive

- Flexible devices to enable scalable, software defined architectures
- Low Jitter, High temperature products for rugged environments
- High Reliability, Low DDPM, AEC-Q100 Grade 1 portfolio
- Precision FailSafe™ solutions for safer mobility

The heartbeat of

Automotive Electronics

Precision MEMS Timing Delivers Reliable Automotive Systems

Sensors (optical, radar, lidar, ultrasonic)

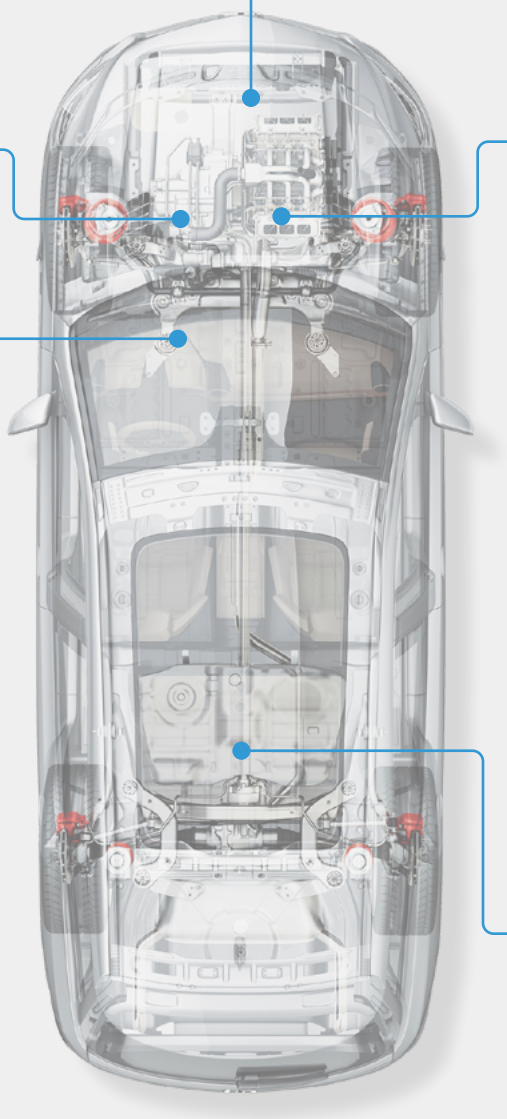
Down to ±20 ppm over -40°C to 125°C Ta/150°C Tj for high res,
High FR imagers/ISPs,
Small 1612 footprints

SiT1625 XO | SiT202x SSXO

ADAS Computer

Safety focused (ASIL B to D),
Best-in-class jitter,
-40°C to 125°C Ta/150°C Tj for industry's widest operating range

SiT939x DXO | SiT1625 XO | SiT202x SSXO | SiT9128x Clock Generator



Electrical Control Unit (ECU)

±20 ppm oscillators with FailSafe™ support for ASIL-B or ASIL-D system certification,
Industry's highest reliability @ 2.2B+ hr MTBF

SiT1625 | SiT8924/25 | SiT9396/97 Oscillators

Infotainment / Cluster

EMI reduction up to 17 dB,
Reliable startup in cold temps,
Industry's highest reliability @ 2.2B+ hr MTBF

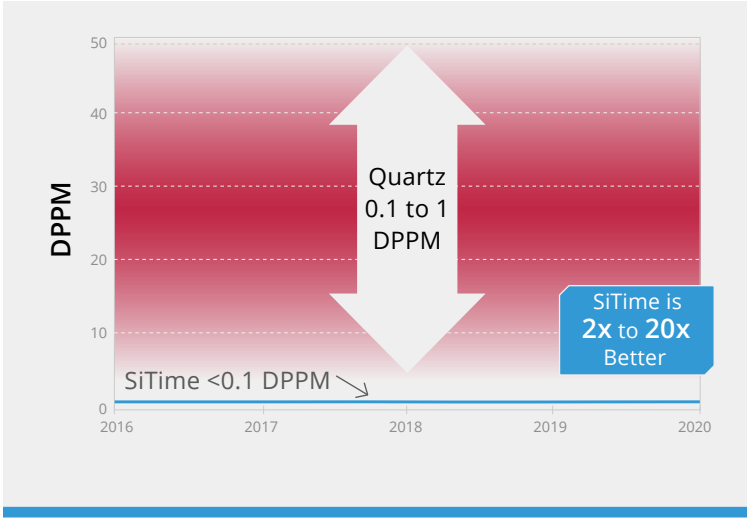
SiT9396/97 | SiT9025 | SiT1625 | SiT8924/25 | SiT2024/25 Oscillators

Telematics, GNSS

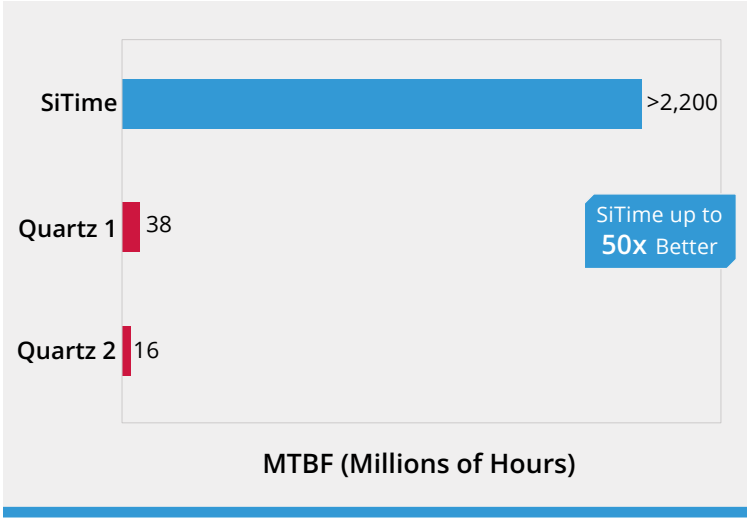
0.1ppm Super-TCXOs with -40°C to 125°C Ta/150°C Tj in plastic QFN packages, with better BLR, to maintain satellite lock under shock,
Vibration and thermal gradients,
Extended holdover

SiT5186/87 | SiT5386/87 Super-TCXOs

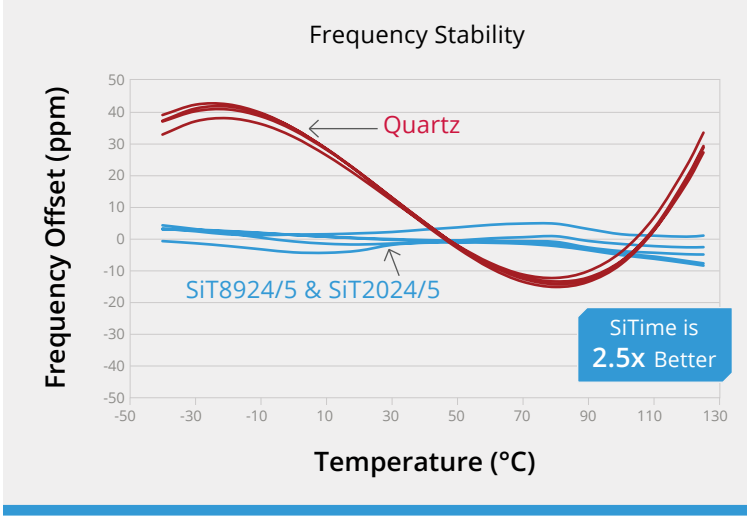
Higher Quality



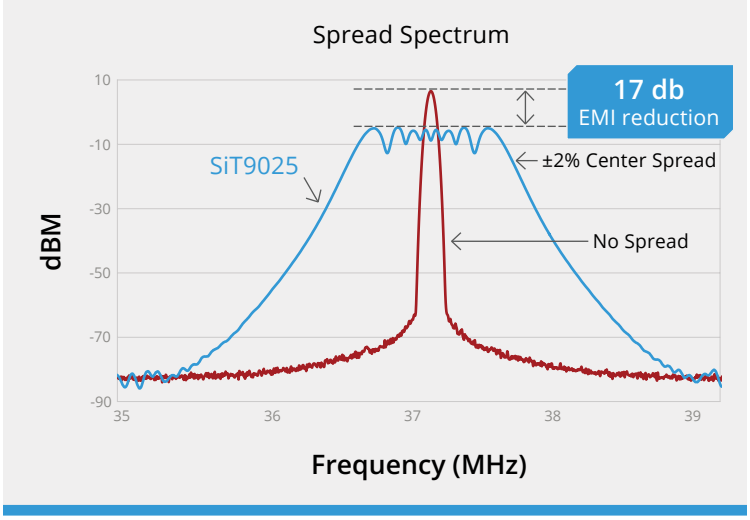
Higher Reliability



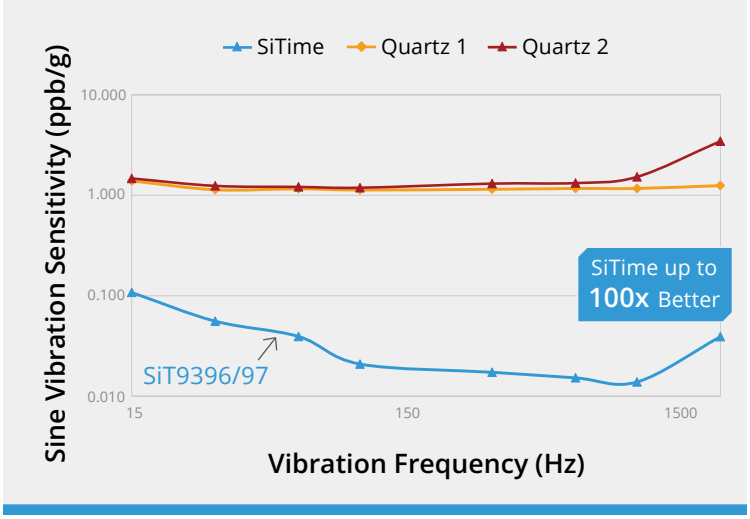
Tighter Stability



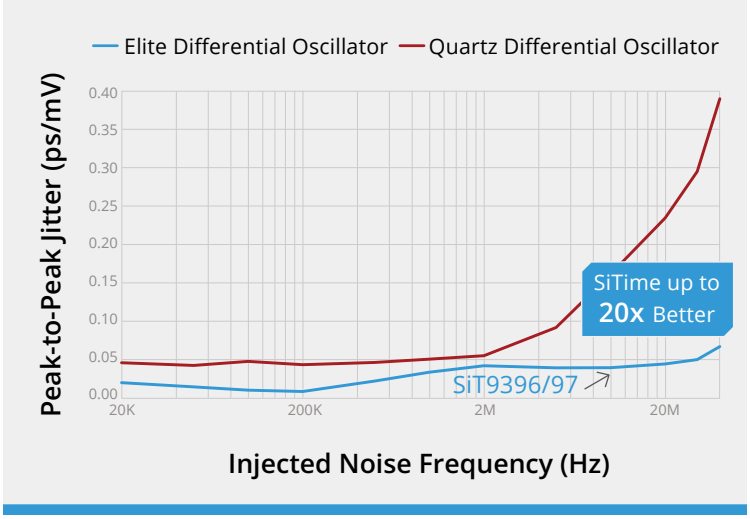
Better EMI Reduction



Immune to Vibration



Better Noise Rejection



AEC-Q100 MEMS Timing Solutions for Automotive

SiTime Base Part No.	Output Frequency	Temperature Range (°C)	Frequency Stability (ppm)	Supply Voltage (V)	Packages (mm x mm)	Output Logic	Features
QFN Oscillators | Pin-compatible QFN | Short lead time even for custom frequencies							
SiT1625	44 standard frequencies	-40 to +85, -40 to +105, -40 to +125	±25, ±30, ±50	1.2, 1.5, 1.8, 2.5 and 3.3	QFN: 1.6 x 1.2, 2.0 x 1.6, 2.5 x 2.0, 3.2 x 2.5	LVCMOS	700 fs RMS jitter (max), 2.3 mA typ. current consumption
SiT8924/5	1 to 137 MHz		±20, ±25, ±30, ±50	1.8, 2.5 to 3.3	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		8 output drive strength options, Field Programmable
SiT9624	1 to 150 MHz		±20, ±25, ±50	1.8, 2.5 to 3.3	QFN: 2.0 x 1.6, 2.5 x 2.0		Clock_Good Diagnostic Monitoring, Spread-Spectrum option
Differential Oscillators | Best-in-class jitter | Wide frequency range							
SiT9396/7	1 to 920 MHz	-40 to +125	±20, ±25, ±30, ±50	1.8, 2.5, 3.3	QFN: 2.0 x 1.6, 2.5 x 2.0, 3.2 x 2.5	LVPECL, LVDS, HCSL, Low-power HCSL, FlexSwing	Ultra-low jitter, Small size, 125°C
SiT9386/7	1 to 725 MHz	-40 to +105		2.5, 2.8, 3.0, 3.3			
Spread Spectrum Oscillators | Most flexible EMI reduction options | Low cycle-cycle jitter							
SiT9025	1 to 150 MHz	-40 to +85, -40 to +105, -40 to +125	±20, ±25, ±50	1.8, 2.5 to 3.3	QFN: 2.0 x 1.6, 2.5 x 2.0, 3.2 x 2.5	LVCMOS	40 spread options, up to ±2.0%, down to -4.0%, Field programmable
Clock Generators | Full Clock Tree Integration | End-to-end diagnostic safety features							
SiT9128x	1 to 700 MHz (Diff.) 1 to 220 MHz (LVCMOS)	-40 to +85, -40 to +105, -40 to +125	±20, ±30, ±50	Independent for Core and each output: 1.8, 2.5 to 3.3	QFN: 4.0 x 4.0	LVDS, LVPECL, HCSL, LPHCSL, FSPECL, LVCMOS	FailSafe™ safety features, Spread spectrum, GPIO, I²C and SPI interfaces, Highly programmable
Clock Buffers | Ultra-low additive jitter and pin-to-pin skew | Integrated 50 ohm termination							
SiT92182/4	200 MHz	-40 to +85, -40 to +105, -40 to +125	–	1.8 to 3.3	DFN: 2.2 x 2.2	LVCMOS	< 50 ps pin-to-pin skew, < 50 fs additive jitter, integrated 50-ohm termination
Super-TCXOs | ±100 ppb stability | 5 ppt resolution frequency control							
SiT5186/7	1 to 220 MHz	-40 to +85, -40 to +105	±0.5, ±1, ±2.5	2.5, 2.8, 3.0, 3.3	SMD: 5.0 x 3.2	LVCMOS, Clipped Sinewave	I²C programmable, 1 ppb/°C slope, Field programmable
SiT5386/7			±0.1, ±0.2, ±0.25				

Learn more about timing solutions from SiTime

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