SiTime Enables Higher Safety with Precision Timing for In-Car Connectivity

New Family of Oscillators Addresses a $100M Market

SANTA CLARA, Calif.--(BUSINESS WIRE)--Apr. 20, 2023-- SiTime Corporation (NASDAQ: SITM), the precision timing company, today introduced its latest generation of automotive oscillators to enable higher safety for advanced driver assistance systems (ADAS), infotainment and car-to-home wireless connectivity. SiTime SiT1623/25 automotive-grade oscillators comply with the stringent AEC-Q100 standard and address a $100M market.

According to McKinsey (note 1), four macrotrends are driving growth in automotive – autonomous driving, connectivity, electrification, and shared vehicles. The market for automotive electrical/electronic components and software to serve these macrotrends is expected to reach $450 billion by 2030, which is more than double the growth of the overall automotive market.

Precision timing is the heartbeat of all intelligent, connected automotive electronics, and the number of timing chips in cars has grown and will continue to grow. SiTime believes that in 2018, vehicles used up to 20 timing chips. Today, SiTime believes cars have up to 60 timing chips, and that number will grow to 100 timing chips by 2026. The compute power and connectivity requirements for automotive electronics is expected to outpace the growth of the overall automotive market.

SiTime precision timing solutions, based on resilient and reliable silicon MEMS technology, are designed to perform in extreme conditions and provide the robust system performance and stability required in harsh environments. Today, the leading electric vehicle (EV) manufacturers work with SiTime because of the unique advantages offered by SiTime's precision timing solutions. It is anticipated that broad adoption of precision timing solutions will continue as these devices become the de facto standard in cars.

"This new generation of automotive oscillators is an additional milestone in the precision timing industry," asserts Pierre Delbos, Technology and Market Analyst, Sensing and Actuating at Yole Intelligence, part of Yole Group. "With the growing needs for high-frequency connectivity in cars and the inherent reliability of silicon-based oscillators, we expect the MEMS timing industry to grow with a 35 percent CAGR from 2021-27[2]."

SiTime's MEMS-based timing technology is known for high performance in harsh conditions such as high or low temperatures, shock, and vibration. The SiT1623/25 precision timing devices showcase SiTime's proven advantages in reliability and frequency stability over a wide temperature range, combined with significant improvements in jitter and power consumption.

"Automotive is a dynamic market where electronics companies are innovating rapidly in the fields of automated driving, instrument clusters, and connectivity. It is a focus market for SiTime, where we uniquely deliver superior robustness and reliability," said Piyush Sevalia, executive VP Marketing, SiTime. "The new automotive-grade SiT1623/25 oscillators are designed to perform in extreme conditions with exceptional stability and jitter, enabling safer cars with higher performance ADAS. Precision timing is the heartbeat of the latest automotive technologies that keep drivers safe and connected."

SiT1623/25 oscillators provide a high-temperature, low-power timing reference for leading automotive connectivity protocols, including SerDes and automotive Ethernet. Automotive applications require high-speed, in-car connectivity to transfer data between sensors, displays and central computers in the car.

Each has stringent jitter requirements to ensure reliable ADAS system performance. The new oscillators offer exceptional jitter performance and ±50 ppm frequency stability over -40°C to +125°C. Excellent jitter and stability over extended temperature is crucial for reliable ADAS performance.

Key Features of SiT1623/25 Automotive Oscillators

- Flexible frequency options:
  - SiT1623: 9 commonly used frequencies between 8 MHz and 50 MHz
  - SiT1625: 12 commonly used frequencies between 8 MHz and 100 MHz
- 500 and 750 fs RMS phase jitter (for SiT1625 and SiT1623, respectively)
- Supply voltage of 1.5 V, 1.8 V, 2.5 V and 3.3 V
- Low power consumption:
  - SiT1623: 1.8 mA typical at 1.8 V
  - SiT1625: 2.3 mA typical at 1.8 V
- 1 µA standby current
- AEC-Q100 Grade 1 temperature range (-40 °C to 125 °C)
- LVCMOS-compatible output
- Industry-standard package options: 1.6 mm x 1.2 mm, 2.0 mm x 1.6 mm, 2.5 mm x 2.0 mm, 3.2 mm x 2.5 mm
- RoHS and REACH compliant, Lead-free, Halogen-free and Antimony-free

Availability

Engineering samples are available now for qualified customers. General samples will be available in July 2023. Volume production is expected in early 2024. Contact SiTime for ordering information.

Additional Resources

Download the SiT1623/25 image.
Learn more about the SiTime SiT1623 and SiT1625 oscillators.
Learn more about SiTime automotive solutions.

About SiTime

SiTime Corporation is the precision timing company. Our programmable solutions offer a rich feature set that enables customers to differentiate their products with higher performance, smaller size, lower power, and better reliability. With over 3 billion devices shipped, SiTime is changing the timing industry. For more information, visit www.sitime.com.

[1] McKinsey & Company, “Automotive software and electronics 2030: Mapping the sector’s future landscape” July 2019

[2] Yole Intelligence, “Status of MEMS Industry Report” 2022

Note on Forward-Looking Statements

This press release may contain forward-looking statements regarding future events. These forward-looking statements are intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of 1995. Readers are cautioned that these forward-looking statements involve risks and uncertainties that could cause our actual results and the timing of events to differ materially from those anticipated in such forward-looking statements, including, but not limited to: (i) anticipated trends, challenges and growth in our business and the markets in which we operate, including pricing expectations, (ii) the size and growth potential of the markets for our solutions, and our ability to serve and expand our presence in those markets, and (iii) our ability to introduce and ship new products in volume; and other risks and

uncertainties described more fully in our documents filed with or furnished to the Securities and Exchange Commission. More information about these and other risks that may impact our business is set forth in our more recent Form 10-K filed with the Securities and Exchange Commission. All forward-looking statements in this press release are based on information available to us as of the date hereof and qualified in their entirety by this cautionary statement, and we assume no obligation to revise or update these forward-looking statements.



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