



## SiTime Enables High Performance Optical and Data Communications for Outdoor 5G Deployment

### *MEMS Oscillator Offers Breakthrough 70-fs Jitter in Half the Space*

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SANTA CLARA, Calif.--(BUSINESS WIRE)--Jul. 29, 2020-- SiTime Corporation (NASDAQ: SITM), a market leader in MEMS timing, today introduced the [SiT9501 differential MEMS oscillator](#). Based on SiTime's newly launched third generation MEMS technology, the device delivers uncompromising performance for 100G - 800G optical modules. With the device's smaller size, customers get up to 50% space savings to integrate more features and reduce development time. The SiT9501 is ideal for other high-performance applications, including datacenter switches, telecom routers, edge servers, AI/graphics cards, and storage controllers.

"Over the past 15 years, SiTime has developed and shipped two generations of MEMS resonators that are used in all our oscillator shipments to date. Our third generation MEMS is now ready and delivers up to 7 times better phase noise at half the power," said Rajesh Vashist, CEO of SiTime. "The SiT9501 is the first of many products to use this technology and continues our tradition of delivering dramatic performance enhancements in every product generation. In space constrained applications such as optical modules, the SiT9501 delivers an unmatched combination of higher performance and smaller size."

### **Meeting Tough Requirements of Data Communications and Optical Modules**

In anticipation of massive Internet traffic growth, driven by 5G, AI and cloud computing, data centers are increasing throughput. Optical modules and data communications equipment need to deliver faster data rates. Outdoor 5G infrastructure is subject to environmental stressors such as high-temperature, vibration and airflow that can degrade throughput. With the increased data rates and potential environmental stressors, timing margins shrink, requiring lower jitter oscillators to ensure the same quality of service.

In optical modules, a third of the PCB area is consumed by the optical sub-assembly, leaving little room for data processing electronics, and making small size a critical factor in oscillator selection.

SiTime's new SiT9501 differential oscillator solves both key issues by offering the lowest jitter in the presence of environmental stressors, and the smallest size.

### **Features of the SiT9501 Differential MEMS Oscillator**

The [SiT9501](#) is the industry's lowest-jitter programmable oscillator, and includes the following features:

- Popular networking frequencies from 25 MHz to 644.53125 MHz
- 70 femtoseconds of RMS phase jitter
- 2.0 x 1.6 mm package, the industry's smallest. Also available in other industry standard packages.
- Wide temperature range, from -40 to +105°C
- On-chip voltage regulators to filter power-supply noise, enhancing power integrity for module designs
- Innovative FlexSwing™ driver reduces power consumption by 30% and integrates source-bias LVPECL resistors

### **One-stop-shop for Differential Timing**

SiTime offers the widest portfolio of differential oscillators, with jitter from 70 fs for high-speed

communications to 1 ps for processing and computing applications. These oscillators can be configured to any frequency between 1 and 800 MHz, and are available in several industry-standard packages, enabling easy replacement.

### **Availability**

The [SiT9501](#) oscillator is sampling now. Production quantities are planned to be available in Q1 2021. Pricing is provided upon request. For more information and datasheets, visit: <https://www.sitime.com/datasheet/SiT9501>

SiT9501 image: <https://bit.ly/sit9501-image>

### **About SiTime**

SiTime Corporation is a market leader in silicon MEMS timing. Our programmable solutions offer a rich feature set that enables customers to differentiate their products with high performance, small size, low power, and high reliability. With over 1.5 billion devices shipped, SiTime is changing the timing industry.



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