• More robust in harsh environments
• Better stability over a wide temperature range
• Programmability for flexible design
• High reliability, lifetime warranty

A small part from SiTime runs a big part of your world
MEMS Timing Solutions for Industrial IOT

**Single Ended, Differential, and Spread Spectrum Oscillators**
SiT8918/19 | SiT9366/67 | SiT9005 | SiT9025
- High temperature operation | -55 to +105°C
- Vibration | 0.1 ppb/g typical
- EMI reduction | Up to 30 dB lower

**MHz Super-TCXOs and 32-kHz Oscillators**
SiT5356 | SiT5357 | SiT1580 | SiT1630
- Precision timing | ±100 ppb up to 105°C
- Airflow and thermal shock resistant | 1 ppb/°C
- Low power for longer battery life | 4.5 µA at 100 kHz

**OCXOs and Super-TCXOs**
SiT5711/12 | SiT5358/59 | SiT5356/57
- Precision timing | ±5 ppb to ±100 ppb
- Vibration resistant | 0.1 ppb/g typical
- High reliability | >1 billion hour MTBF

**OCXOs, Super-TCXOs, and Oscillators**
SiT5711/12 | SiT5721/22 | SiT5358/59 | SiT5356/57 | SiT8008/09 | SiT9366/67
- Lower aging | ±500 ppb over 20-years
- Programmability | Any frequency, stability, voltage within wide range
- Reduce size | Smallest Stratum 3E OCXO

**MHz Super-TCXOs and 32-kHz Oscillators**
SiT5356/57 | SiT1580 | SiT1532/33 | SiT1630
- Precision timing | ±100 ppb, 3e-11 ADEV
- Lower power for longer battery life
- Smallest 32 kHz TCXO | 1.5 mm x 0.8 mm
MEMS Oscillators Outperform Quartz

**Better Quality, Reliability, and Robustness**

<table>
<thead>
<tr>
<th>Quality</th>
<th>Reliability (FIT Rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2 dppm</td>
<td>&lt;1 Failure</td>
</tr>
<tr>
<td>50 dppm</td>
<td>&gt;30 Failures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vibration Survivability</th>
<th>Shock Survivability</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 g</td>
<td>30,000 g</td>
</tr>
<tr>
<td>20 g</td>
<td>1500 g</td>
</tr>
</tbody>
</table>

SiTime | Quartz

**Rich Programmable Features**

- Any Frequency: 1 Hz (725M options, 725 MHz)
- Any Stability: ±0.005 ppm (18 options, ±0.05 ppm)
- Any Voltage: 1.2V (8 options, 3.3V)
- Temperature: -55°C (10 options, -125°C)
- Spread Spectrum: ±2% (48 options, ±4%)
- FlexEdge Rise/Fall Times: 0.25 ns (8 options, 4.0 ns)
- VC Pull Range: ±25 ppm (10 options, ±3200 ppm)
- In-System Programmability: SPI (2 options, I2C)

**Better Stability**

SiTime Elite Super-TCXO

- Frequency Stability (ppb)
- Temperature (°C)

**Better Vibration Resistance**

- SiTime Elite Super-TCXO
- Quartz TCXO

- Phase Noise (dBc/Hz)
- Frequency Offset (Hz)

**Better Aging**

SiTime Elite Oscillators

- Frequency at 105°C (ppb)
- Aging Time (Hours)

Extrapolated Fit at 105°C

**Better PSNR (Power Supply Noise Rejection)**

SiTime Elite Differential Oscillator

- Jitter (ps/mV)
- Injected Noise Frequency (Hz)
**MEMS Timing Solutions for Industrial**

S*Elite Platform products, **Emerald Platform products

All products are available in -40 to +85°C unless otherwise noted.

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### SiTime Base

**Part No.**

<table>
<thead>
<tr>
<th>Output Frequency</th>
<th>Frequency Stability (ppm)</th>
<th>Supply Volt. (V)</th>
<th>Supply Current (Typical)</th>
<th>Packages (mm x mm)</th>
<th>Output Logic</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SINGLE-ENDED OSCILLATORS</strong></td>
<td>Better reliability</td>
<td>Pin-compatible footprints</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIT1602, SIT8008/09</td>
<td>1 MHz to 137 MHz</td>
<td>±20, ±25, ±50</td>
<td>1.8, 2.5 to 3.3</td>
<td>3.1 to 5.5 mA (0.6 - 1.0 µA stby)</td>
<td>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</td>
<td>LVCMOS</td>
</tr>
<tr>
<td>SIT1618, SIT8918/19</td>
<td>1 MHz to 137 MHz</td>
<td>±20, ±25, ±30, ±50</td>
<td>3.6 to 5.4 mA (1.0 µA stby)</td>
<td>SOT23: 2.9 x 2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIT2018/19</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>SIT1630</td>
<td>32.768, 16.384 kHz</td>
<td>75, 100, 150</td>
<td>1.5 to 3.63</td>
<td>1.0 µA</td>
<td>QFN: 2.0 x 1.2</td>
<td>LVCMOS</td>
</tr>
</tbody>
</table>

**DIFFERENTIAL OSCILLATORS** | Better reliability | 0.2 ps/mV power supply noise rejection (PSNR)

| **VCOs** | ±25 to ±3200 ppm pull range, <1% linearity | Better reliability | 0.1 ppb/g accelerator sensitivity |
| SIT9120/21/22/23 | 1 MHz to 625 MHz | ±10, ±20, ±25, ±50 | 2.5, 3.3, 2.25 to 3.63 | 54 to 69 mA | QFN: 3.2 x 2.5, 5.0 x 3.2, 7.0 x 5.0 | LVPECL, LVDS | 0.6 ps RMS phase jitter |
| SIT9365/66/67 | 1 MHz to 725 MHz | ±15, ±25, ±30, ±50 | 2.5 to 3.3 | 76 to 84 mA | QFN: 3.2 x 2.5, 5.0 x 3.2, 7.0 x 5.0 | LVPECL, LVDS, HCSL | 0.21 ps RMS phase jitter |

**EMI REDUCTION OSCILLATORS** | Most flexible EMI reduction options | Low cycle-cycle jitter

| **DCXOs** | In-System Programmable | Digital pull for lower noise | Up to ±1600 ppm pull range, 5 ppt pull resolution, <1% linearity |
| SIT9005 | 1 MHz to 150 MHz | ±20, ±25, ±50 | 1.8, 2.5 to 3.3 | 5.0 to 5.6 mA (0.4 - 2.1 µA stby) | 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%, Smallest, Field Programmable |
| SIT9025 | 1 MHz to 150 MHz | ±20, ±25, ±50 | 1.8, 2.5 to 3.3 | 5.0 to 5.6 mA (0.4 - 2.1 µA stby) | QFN: 2.0 x 1.6, 2.5 x 2.0, 3.2 x 2.5 | LVCMOS | | |

**SUPER-TCXOs** | ±1 ppb/°C ΔF/ΔT slope | 5 ppt resolution frequency control | 0.001 ppb/g acceleration sensitivity

| **STRATUM 3E OCXOs** | Airflow and thermal shock resistant | Stratum 3E compliant– better holdover in dynamic conditions | Smallest OCXO |
| SIT5155/56/57 | 1 MHz to 625 MHz | ±0.5, ±1, ±2.5 | 2.5, 2.8, 3.0, 3.3 | 40 to 45 mA | SMD: 5.0 x 3.2 | LVCMOS, Clipped Sinewave | I2C programmable, ±1 ppb/°C (ΔF/ΔT) slope, -40 to +105°C |
| SIT5356/57 | 1 MHz to 220 MHz | ±0.1, ±0.2, ±0.25 | 2.5, 2.8, 3.0, 3.3 | 40 to 45 mA | SMD: 5.0 x 3.2 | LVCMOS, Clipped Sinewave | I2C programmable, ±1 ppb/°C (ΔF/ΔT) slope, -40 to +105°C |
| SIT5711** | 1 MHz to 60 MHz | ±0.005, ±0.008 | 3.3 | 180 mA (at 50°C in steady state) | 9.0 x 7.0, 14.0 x 9.0, 25.0 x 22.0 | LVCMOS, Clipped Sinewave | ±50 ppt/°C ΔF/ΔT |
| SIT5712** | 60 MHz to 220 MHz | | | | | | |

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Field Programmable Oscillators – Always Available

Easy-to-use programming kit

- Don’t waste time searching & waiting for timing devices
- Optimize system performance with custom frequencies
- Instantly reduce EMI with programmable drive strength

*Elite Platform products, **Emerald Platform products

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