MEMS Oscillators for Communications-Enterprise

- Extensive portfolio for synchronization and wireless
- Better performance in harsh environments
- No placement constraints, no shield needed, reduces manufacturing overhead
- Programmable, instant samples, shortest lead time
- Higher reliability

A small part from SiTime runs a big part of your world
Emerald Platform OCXOs
SiT5711 | SiT5712 | SiT5721 | SiT5722
- Airflow and thermal shock resistant | 50 ppt/°C
- Most flexible | any stability from ±5 to ±50 ppb, any frequency 1 to 220 MHz
- Stratum 3E compliant | best holdover in dynamic conditions
- Smallest size | 9 x 7 x 6.5H mm

Elite Platform Precision Super-TCXOs
SiT5356 | SiT5357 | SiT5358 | SiT5359
- High temperature operation | ±100 ppb up to 105°C
- Airflow and thermal shock resistant | 1 ppb/°C
- Vibration resistant | 0.1 ppb/g vibration
- Precise frequency steering | 5 ppt resolution

Differential Oscillators
SiT9365 | SiT9366 | SiT9367 | SiT9120 | SiT9121 | SiT9122
- Better stability at high temperature | ±10 ppm at 105°C
- Most flexible | 1 to 725 MHz, ±10 to 50 ppm, LVPECL/LVDS/HCSL, 3 package options
- Better PSNR | 0.05 ps/mV, eliminates external regulators
- Low phase jitter | in small industry-standard packages

elite Platform Differential Oscillators
SiT9365 | SiT9366 | SiT9367
- Smallest size | 3.2 x 2.5 mm²
- Better stability at high temperature | ±10 ppm at 105°C
- Better PSNR | 0.05 ps/mV, eliminates external regulators

Elite Platform Super-TCXOs
SiT5155 | SiT5156 | SiT5157
- High temperature operation | ±500 ppb up to 105°C
- Airflow and thermal shock resistant | 1 ppb/°C
- Better short-term stability | 1.5e-11 ADEV at 10s
- No activity dips | no micro jumps

Elite Platform Differential Oscillators
SiT9365 | SiT9366 | SiT9367
- In-system programmable | 1 to 725 MHz
- Precise frequency steering | 5 ppt resolution
- Best stability at high temperature | ±10 ppm at 105°C
MEMS Oscillators Outperform Quartz

**Better Stability**

- Emerald OCXO

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

**Better Frequency Slope**

- Emerald OCXO

- Frequency vs. Temperature (°C)

**Better Vibration Resistance**

- Quartz TCXO
- Elite Super-TCXO

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

**Better Aging**

- Emerald and Elite Oscillators

- Frequency at 105°C (ppb) vs. Aging Time (hr)

**Better Allan Deviation**

- Quartz TCXO
- Elite Super-TCXO

- ADEV vs. Averaging Time (s)

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

- Elite Differential Oscillator
- Quartz Differential Oscillator

- Jitter (ps/mV) vs. Injected Noise Frequency (Hz)
SiTime Base

<table>
<thead>
<tr>
<th>SITime Base Part No.</th>
<th>Output Frequency</th>
<th>Frequency Stability (ppm)</th>
<th>Supply Volts (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>OCXOs</strong></td>
<td>Airflow and thermal shock resistant</td>
<td>Stratum 3E compliant– better holdover in dynamic conditions</td>
<td>Smallest OCXO</td>
<td></td>
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</tr>
<tr>
<td>SIT5711*</td>
<td>1 MHz to 60 MHz</td>
<td>±0.005, ±0.008</td>
<td>3.3</td>
<td>180 mA (at 50°C in steady state)</td>
<td>9.0x7.0, 14.0x9.0, 20.0x13.0, 25.0x22.0</td>
<td>LVCMOS, Clipped Sinewave</td>
<td>±50 ppt/°C ΔF/ΔT</td>
</tr>
<tr>
<td>SIT5712*</td>
<td>60 MHz to 220 MHz</td>
<td>±0.1, ±0.2, ±0.25</td>
<td>2.5, 2.8, 3.0, 3.3</td>
<td>40 to 45 mA</td>
<td>5.0x3.2</td>
<td>LVCMOS, Clipped Sinewave</td>
<td>I2C programmable, ±50 ppt/°C ΔF/ΔT</td>
</tr>
<tr>
<td>SIT5721*</td>
<td>1 MHz to 60 MHz</td>
<td>±0.5, ±1, ±2.5</td>
<td>2.5, 3.3, 2.25 to 3.63</td>
<td>55 to 69 mA</td>
<td>3.2x2.5, 5.0x3.2, 7.0x5.0</td>
<td>LVPECL, LVDS</td>
<td>0.6 ps rms phase jitter</td>
</tr>
<tr>
<td>SIT5722*</td>
<td>60 MHz to 220 MHz</td>
<td>±5</td>
<td>1.8, 2.5, 2.8, 3.0, 3.3</td>
<td>29 to 31 mA</td>
<td>2.5x2.0, 3.2x2.5, 5.0x3.2, 7.0x5.0</td>
<td>LVCMOS</td>
<td>0.5 ps rms phase jitter</td>
</tr>
</tbody>
</table>

**TCXO/VCTCXO/DCTCXOs** | ±6.25 to ±3200 ppm pull range | 5 ppt resolution frequency control | Better reliability | 0.1 ppb/g (vibration sensitivity) |
| SIT5358/59** | 1 MHz to 220 MHz | ±0.05, ±0.1 | 2.5 to 3.3 | 76 to 84 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | Low-swing LVPECL, LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |
| SIT5356/57** | 1 MHz to 625 MHz | ±0.1, ±0.2, ±0.25 | 2.5 to 3.3 | 54 to 69 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | LVPECL, LVDS | 0.6 ps rms phase jitter |
| SIT5021/22 | 1 MHz to 625 MHz | ±5 | 2.5, 3.3, 2.25 to 3.63 | 55 to 69 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | LVPECL, LVDS | 0.6 ps rms phase jitter |
| SIT5000/01 | 1 MHz to 80 MHz | ±5 | 2.5, 3.3, 2.25 to 3.63 | 55 to 69 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | LVPECL, LVDS | 0.6 ps rms phase jitter |

**LOW JITTER OSCILLATORS** | Better reliability | 0.1 ppb/g (vibration sensitivity) |
| SIT9365** | 32 Standard Freq. | ±10, ±20, ±25, ±50 | 2.5 to 3.3 | 76 to 84 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | LVPECL, LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |
| SIT9366/67** | 1 MHz to 725 MHz | ±15, ±25, ±30, ±50 | 2.5 to 3.3 | 76 to 84 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |
| SIT9120 | 31 Standard Freq. | ±20, ±25, ±30, ±50 | 2.5 to 3.3 | 70 to 82 mA | 5.0x3.2 | LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |
| SIT9121/22 | 1 MHz to 625 MHz | ±20, ±25, ±30, ±50 | 2.5 to 3.3 | 70 to 82 mA | 5.0x3.2 | LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |

**VCXOs** | ±25 to ±3200 ppm pull range, <1% linearity | Better reliability | 0.1 ppb/g (vibration sensitivity) |
| SIT3372/73** | 1 MHz to 700 MHz | ±15, ±25, ±30, ±50 | 2.5 to 3.3 | 76 to 84 mA | 3.2x2.5, 5.0x3.2, 7.0x5.0 | LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |

**DCXOs (In-System Programmable)** | Digital pull for lower noise | Up to ±1600 ppm pull range, 5 ppt pull resolution, <1% linearity |
| SIT3521/22** | 1 MHz to 725 MHz | ±20, ±25, ±30, ±50 | 2.5 to 3.3 | 70 to 82 mA | 5.0x3.2 | LVPECL, LVDS, HCSL | 0.21 ps rms phase jitter |

**LOW-POWER OSCILLATORS** | Better reliability | Pin-compatible footprints |
| SIT8008/09 | 1 MHz to 137 MHz | ±20, ±25, ±50 | 1.8, 2.5 to 3.3 | 3.1 to 5.5 mA (0.6 - 10 µA stby) | 1.8, 2.5 to 3.3 | LVCMOS | 0.5 ps rms phase jitter, FP1 |
| SIT8208/09 | 1 MHz to 220 MHz | ±10, +20, +25, ±50 | 1.8, 2.5 to 3.3 | 2.9 to 36 mA (10 µA stby) | 1.8, 2.5 to 3.3 | LVCMOS | 0.5 ps rms phase jitter, FP1 |

1 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

*Emerald Platform products, **Elite Platform products
All products are available in -40 to +85°C unless otherwise noted
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