

SX7SS

LOW EMI SPREAD SPECTRUM CLOCK OSCILLATORS

FEATURES

- Reduce EMI by >15 dBc without changing your board layout.
- Drop-in replacement.
- Wide frequency range.
- Applications: GPS, Wireless LAN, Mobile phone, SDCs,...

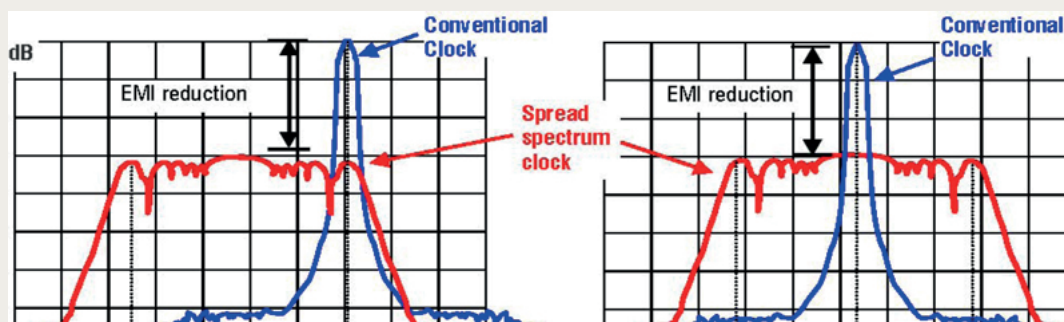
7.0 x 5.0 x 1.8 mm



| Item | Specification | | |
|--|---|---|-------------------|
| Frequency Range | 3.5 MHz ~ 220.0 MHz | | |
| Spread Type (see options) | Total % | Down Spread (D) | Center Spread (C) |
| Spread Percentage (see options) | 0.5% | -0.50% | ±0.25% |
| | 1% | -1% | ±0.5% |
| | 2% | -2% | ±1.0% |
| | 3% | -3% | ±1.5% |
| EMI Reduction (Reduction is applied to the entire spectrum) | -9 dBc min. 100 MHz at Center Spread 0.5% -15 dBc min. 100 MHz at Center Spread 1.5% With respect to the dB level when no modulation. | | |
| Modulation Carrier Frequency (Dither rate) | 12 kHz min. ; 55.5 kHz max. Frequency dependent | | |
| Output Signal | CMOS | | |
| Overall Frequency Stability * | ± 25 ppm ~ ± 100 ppm (see options) | | |
| Operating Temperature Range | 0 ~ +70 °C commercial application (see options) -40 ~ +85 °C industrial application (see options) | | |
| Supply Voltage Vdd | +3.3V ±5% | | |
| Supply Current Idd | 7 mA ~ 25 mA | | |
| Output Level | VOH ≥ 0.9 Vdd | VOL ≤ 0.1 Vdd | |
| Output Load | 15 pF | | |
| Symmetry | 45 / 55 % | | |
| Rise Time / Fall Time Fr/Ff | 4 ns max. | | |
| Tri-state function | pin #1 = high or open pin #1 = low | pin #3 = oscillation pin #3 = high impedance | |
| Start-up Time | 5 ms max. | | |
| Cycle-to-cycle jitter | ±100 ps typical ; ±150 ps max. | | |
| Packing Unit | 1000pcs / reel | | |
| Soldering Condition | 260 °C , 10 sec x2 max | | |
| | Customer specifications on request | | |

(*) Includes initial tolerance @+25 °C, stability over operating temperature, stability vs. load change, stability vs. supply change and one year aging

MODULATION TYPES

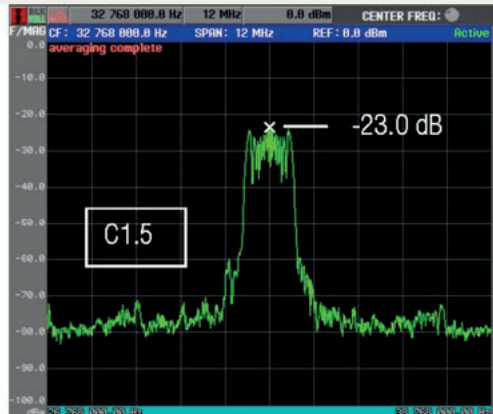
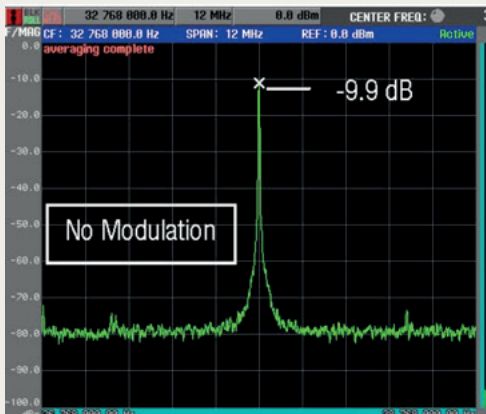


OPTIONS & ORDERING INFORMATION

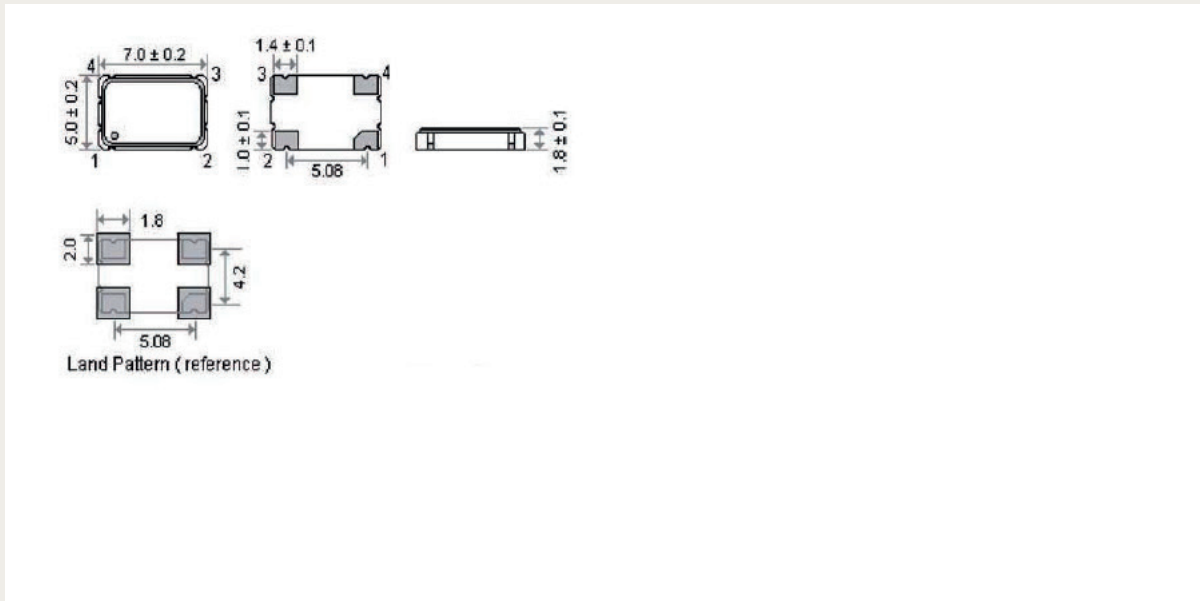
| SX7SS | | | | | | MHz |
|----------------|------------------------------------|--|--------------------|---|-------------------------------------|-----------|
| Supply Voltage | Operating Temp. | Overall Stability | Tri-state Function | Spread Type | Frequency in MHz | |
| 33 = +3.3V | E = 0° / +70°C K = -40° / +85°C | 25 = ±25 ppm 50 = ±50 ppm 100 = ±100 ppm | E = Tri-state | D05 = Down Spread 0.5% D10 = Down Spread 1% D20 = Down Spread 2% D30 = Down Spread 3% C025 = Center Spread 0.5% C05 = Center Spread 1% C10 = Center Spread 2% C15 = Center Spread 3% | Please specify the frequency in MHz | |

If over-clocking is a problem to your system , please choose down spread

Example: 32.768 MHz at No Modulation and at Center Spread 1.5% : 13.1 dBc EMI reduction



OUTLINE DIMENSIONS



| | | | | |
|-----------------|----------|----------|-------------|----------|
| Pin Connections | #1 : E/D | #2 : GND | #3 : Output | #4 : Vdd |
|-----------------|----------|----------|-------------|----------|