SiT91211

1 to 700 MHz, Low Jitter (150 fs), ±20 to ±50 ppm MEMS Clock Generator

The Chorus™ SiT91211 clock generator is designed for low-power, low-jitter applications. This device has a single clock domain and can drive up to eight low-skew single-ended output loads or four low-skew differential loads.

The SiT91211 integrates an internal MEMS resonator as the frequency source for the internal PLL. By integrating a MEMS resonator, the dependency on quartz crystals is eliminated along with quartz related performance, reliability, and design issues like activity dips and matching requirements.

This highly flexible clock has fully configurable output frequency, clock output buffer type (differential and LVCMOS) and individual output enables, through the serial interface. Internal monitor flags and alarm conditions can be configured to be reported through GPIOs. In addition, the SiT91211 has configurable spread-spectrum clocking.

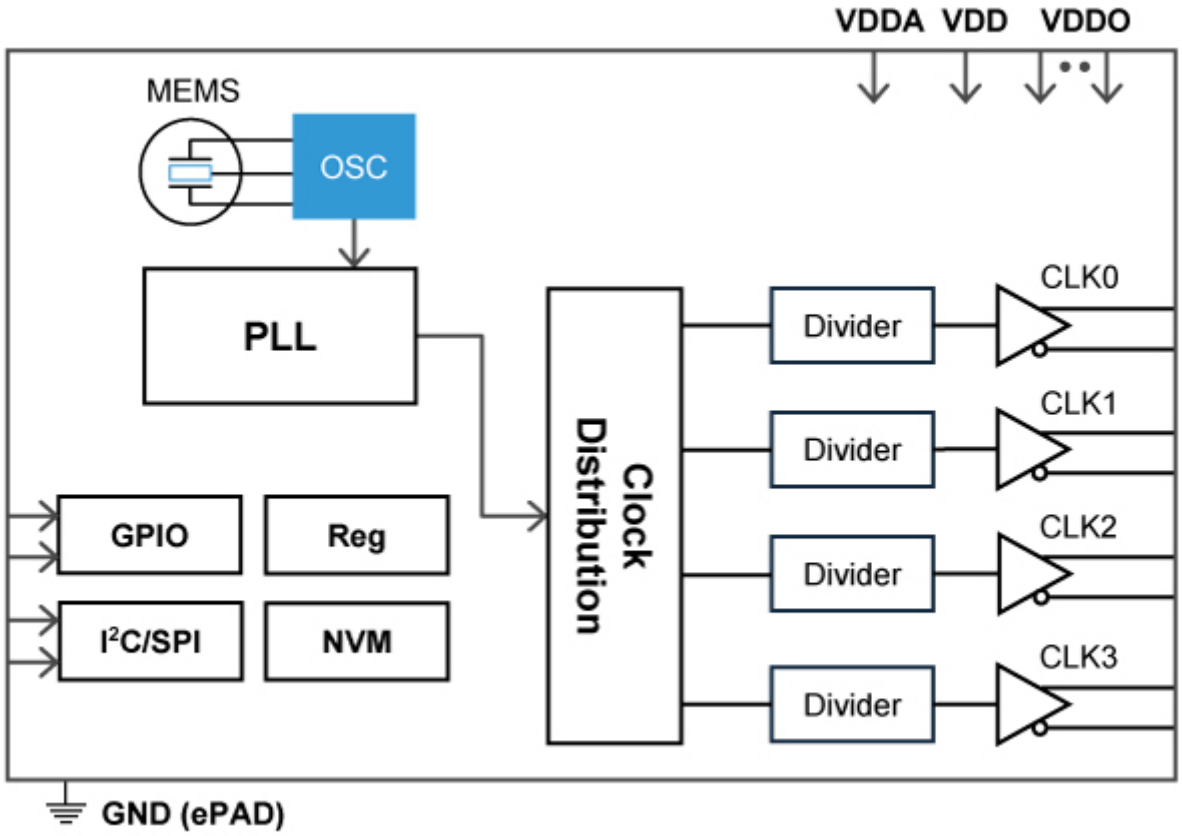
The device is compliant with PCIe Generation 1-6.

Frequency Stability (ppm)	±20 ppm (-40°C to 105°C), ±50 ppm (-40°C to 105°C)
Operating Temperature Range (°C)	-40 to 85, -40 to 105
Package Type (mm²)	4x4 mm, 24-pin QFN
Number of Outputs	8 single-ended, 4 differential
Output Type	LVDS, LPHCSL, LVPECL, LVCMOS
Output Frequency Range	1 to 700 MHz (differential), 1 to 220 MHz (LVCMOS)
Number of PLL/Clock Domains	1 PLL
Phase Jitter (rms)	150 fs (typ.)
PCIe Support	Gen 1 to Gen 6

Alcom electronics
Singel 3 | B-2550 Kontich | Belgium | Tel. +32 (0)3 458 30 33
info@alcom.be | www.alcom.be
Rivium 1e straat 52 | 2909 LE Capelle aan den IJssel | The Netherlands
Tel. +31 (0)10 288 25 00 | info@alcom.nl | www.alcom.nl

Voltage Supply (V)	1.8, 2.5, 3.3
Availability	Sampling

- tandard Frequencies from 1 MHz to 700 MHz
- Fully integrated MEMS-based clock source
- Configurable clock domain and 4 differential outputs or 8 single-ended outputs
- Configurable output clock drivers:
    - LVDS, HCSL, LVPECL, LVCMOS
- Excellent frequency stability:
    - ±20 ppm (-40°C to 105°C)
    - ±50 ppm (-40°C to 105°C)
- Configurable spread-spectrum clock generation
- Compliant with PCIe Generation 1 to 6
- Clock fault monitors (Lock Loss)
- Supply voltage of 1.8 V to 3.3 V
- Low phase jitter, 200 fs maximum (12 kHz-20 MHz)
- Resistant to shock/vibration
- Max. Operating range: -40°C to 105°C
- I2C or SPI serial interface for configuration
- QFN 24 pin 4 x 4 mm, 0.5 mm



Alcom electronics
Singel 3 | B-2550 Kontich | Belgium | Tel. +32 (0)3 458 30 33
info@alcom.be | www.alcom.be
Rivium 1e straat 52 | 2909 LE Capelle aan den IJssel | The Netherlands
Tel. +31 (0)10 288 25 00 | info@alcom.nl | www.alcom.nl