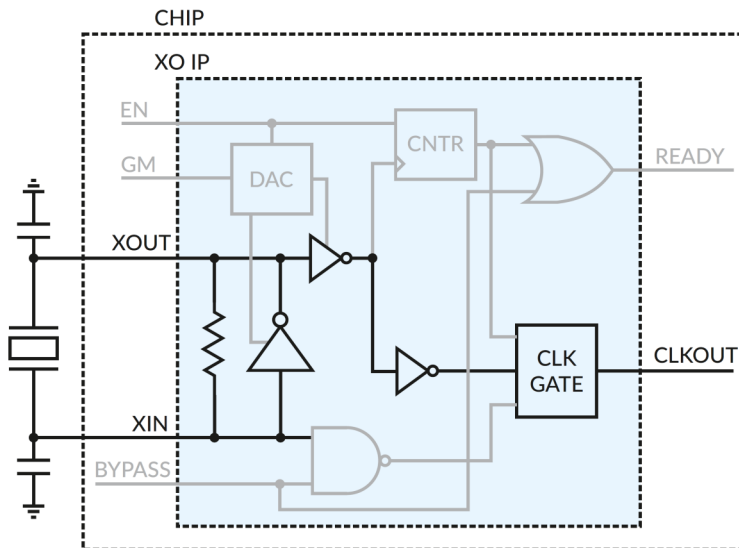


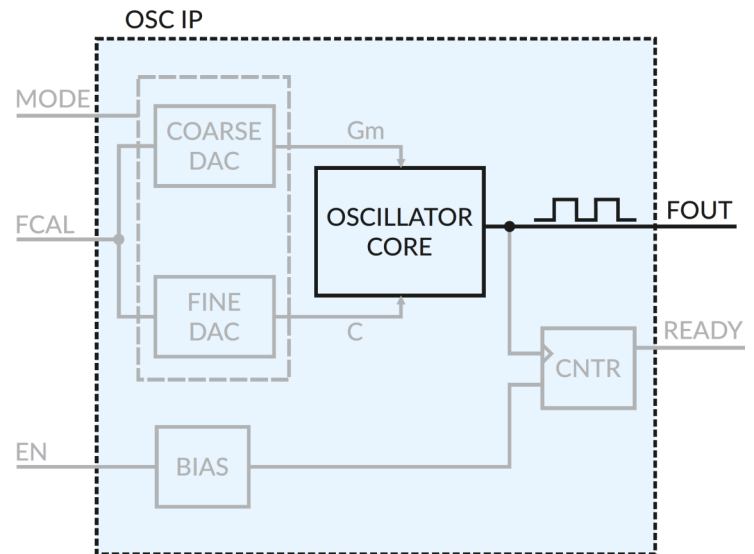
XTAL Oscillators

Our crystal referenced (XTAL) oscillators are compatible with a wide range of industry-standard quartz crystals operating in the fundamental mode from 8 to 100 MHz.



Free-running oscillators

Our free-running oscillators are ideal for use as watch-dog timers and core clock generators for MCUs and low-power chips with competitive features. No external components are required.



Features

XTAL Oscillators

- Designed for crystals and MEMS resonators with allowed drive levels of 100uW or higher
- Supports 8 to 100 MHz fundamental mode quartz crystals with ESR up to 150 Ohms programmable based on crystal parameters.
- Programmable transconductance to allow users to find the optimal balance between jitter and power consumption.
- Bypass mode for use with an external oscillator.
- Compatible with standard foundry ESD, power and IO cells
- Low area (e.g. 0.0015mm² @ 2n)

Free-running oscillators

- Fully integrated. No pins or external components needed.
- Uses only baseline logic process masks.
- Up to 12-bit frequency programmability to calibrate out process variations (within ± 6 sigma process window).
- Low frequency variation due to supply voltage changes: <60ppm/mV.
- Total frequency variation down to $\pm 1\%$ across voltage, temperature, and aging.
- Low period jitter <2% of clock period, peak-to-peak.
- Low area (e.g. 0.004mm² @ 2n)

Availability

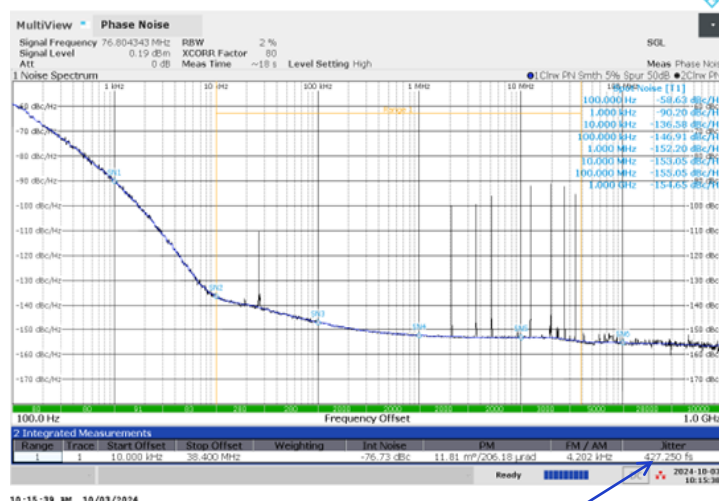
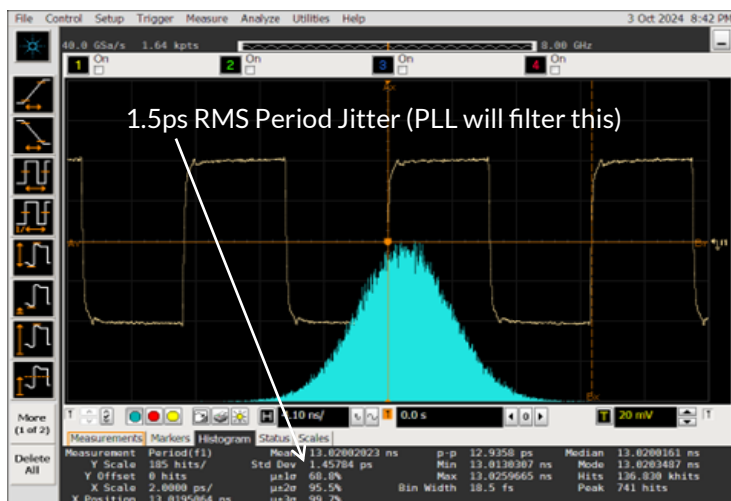
XTAL Oscillators: Silicon proven or mass production in 4/5n, 6/7n, 40n at TSMC. Available 2n, 3n & 12/16n. Free-running oscillators: Silicon proven or mass production in 2n, 3n, 4/5n, 6/7n, 12/16n, 22n, 28n & 40n at TSMC.

Deliverables

- GDSII
- CDL Netlist
- Liberty timing models (.lib)
- Verilog Model
- LEF layout abstract
- Application Note
- Industry leading support by IP designers
- Comprehensive silicon test reports

Predictable and excellent performance

6n XTAL Osc with 76.8 MHz MEMS resonator ...



0.43ps RMS Long Term Jitter

About Silicon Creations

Silicon Creations is focused on providing world class silicon IP for precision and general-purpose timing (PLLs), SerDes, Sensors and high-speed differential IOs.

Our IPs are in production from 2n to 180n and have an excellent record of first silicon to mass production in over 2,000 chips with more than 550 customers for diverse applications including smart phones, wearables, consumer devices, processors, network devices, AI accelerators, safety critical automotive and medical devices.

Our complete commitment to our customer success and our support will delight you. Silicon Creations was founded in 2006, is ISO9001 certified and has won multiple best-of awards from TSMC and GlobalFoundries. We have development centers in Atlanta in USA plus Krakow and Gdansk in Poland with world-wide sales representation.

Contact us

+1-678-259-9301
sales@siliconcr.com

Related Information

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