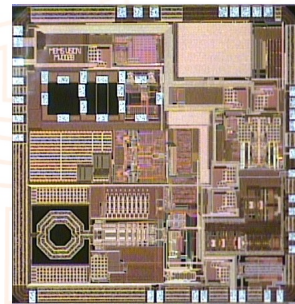
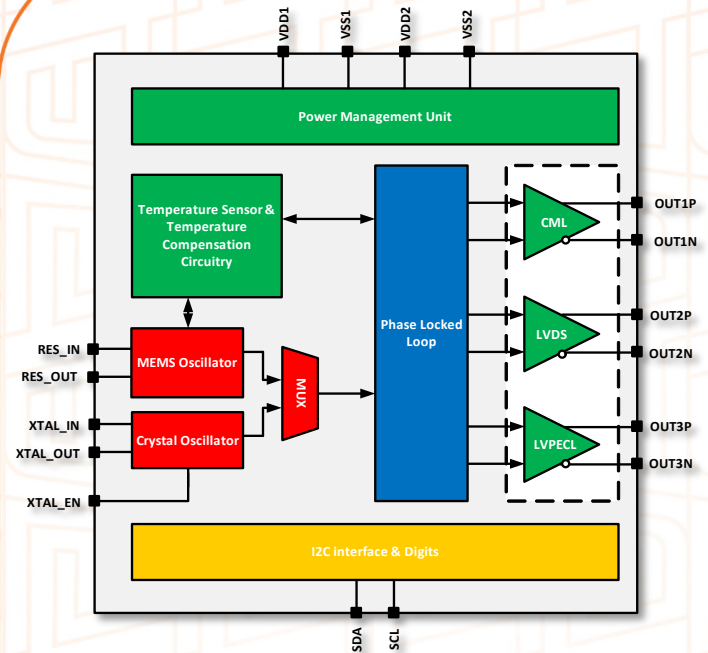


MEMS-based Clock Generator with On-chip Temperature Compensation

- Wide output frequency range, from 1 to 400MHz
- Supply voltage range from 2.5 to 3.6V
- Versatile on-chip MEMS oscillator circuit that supports both single-ended and differential resonators
- Operating temperature range from -40 to 85°C
- On-chip temperature compensation circuits to maintain high-frequency stability across the temperature range
- Programmable output buffers: CMOS, LVDS, LVPECL, & CML outputs
- Low standby current <math><1\mu\text{A}</math>



Die size: 2.3 x 2.3 mm²



Applications:

- SATA, SAS, Fibre Channel
- Passive Optical Networks
- EPON, 10G-EPON, GPON, 10G-PON
- Ethernet
- 1G, 10GBASE-T/KR/LR/SR, and FCoE
- Display Ports

*The Infinite Possibilities
of the Infinitely Small™*

MEMS-based Clock Generator with On-chip Temperature Compensation MVCLK02

The MVCLK02 is a high-precision and programmable clock generator circuit, with a wide output frequency range. The chip contains a versatile MEMS oscillator circuit that is designed to ensure high performance for a wide range of MEMS resonators and with different parameters. The oscillator circuit supports both single-ended and differential resonators. The fully integrated phase-locked-loop circuit is designed to optimize noise and power performance.

High accuracy integrated temperature sensor and compensation circuitry are used to adjust the phase-locked-loop parameters to compensate for any temperature dependencies of the MEMS resonator, allowing for a stable output frequency over temperature.

| | |
|-----------------------------|---------------------------|
| Temperature Range | -40 to 85°C |
| Low Integrated Phase Jitter | <1ps |
| Core Operating Current | 19mA |
| Low Standby Current | <1µA |
| Output Buffers | LVPECL, LVDS, CML, & CMOS |
| Power Supply Voltage | 2.5 to 3.6V |
| Small Footprint | 2.3 x 2.3mm ² |
| Chip Communication | Digital I ² C |

* Customization is available. Talk to us!

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ABOUT MEMS VISION

Headquartered in Montreal, Canada, with offices around the world, MEMS VISION INTL. capitalizes on a strong portfolio of patents and intellectual property on MEMS and ASICs (integrated circuits), and a team of highly qualified personnel, to offer hardware and software smart sensing solutions to its customers and partners serving the Consumer, Industrial, Medical, and Automotive markets. Our products include sensors for humidity, temperature, absolute pressure, differential pressure, particulate matter, as well as ultrasonic sensors.

Our expertise in developing and manufacturing smart sensors, based on our proprietary MEMS, ASICs, and calibration technologies, enables us to deliver sensor solutions with very low power consumption, very small form factor, and a world class performance, all at competitive pricing.