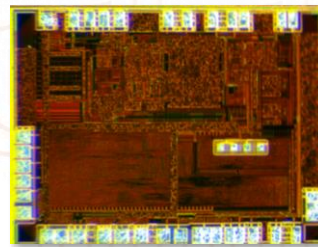
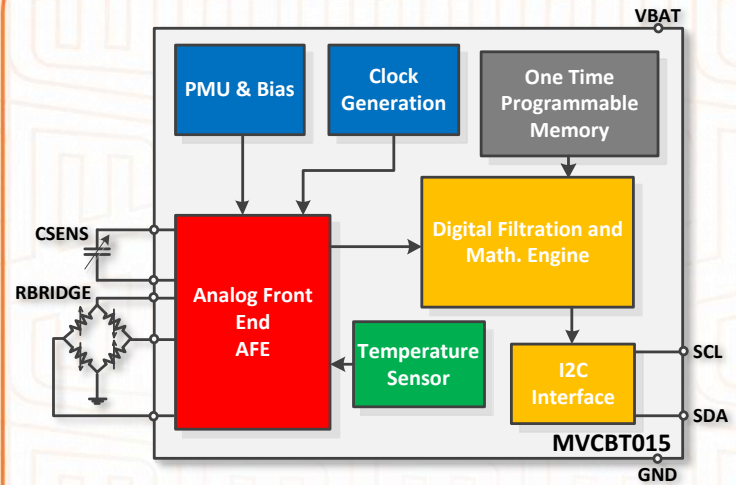


DIGITAL CAPACITIVE PLUS BRIDGE SENSOR INTERFACES

- Trimmable input capacitance range, for flexibility and dynamic range optimization
- Internally regulated bridge-excitation voltage
- Internal high-accuracy and low-drift temperature sensor
- On-chip processing engine for linearization and temperature compensation – provides end user with a fully calibrated output
- Programmable resolution settings for each measurement mode:
 - 8, 10, 12, and 14-Bit for the temperature sensor and the capacitance interface
 - 14, 16, 18, and 20-Bit for the bridge sensor interface
- Ultra-low sleep current



Die Size: 1.61 x 1.21 mm²



Applications

- Pressure, Humidity, and Temperature Monitoring
- Home Automation Control
- HVAC / VAV
- Pressure Transmitters
- IoT Environmental Sensing
- Level Sensing

INNOVATING SENSORS

FOR A BETTER WORLD!

MVCBT015

Digital Capacitive Plus Bridge Sensor Interfaces

The MVCBT015 is a programmable, highly accurate, capacitance-to-digital converter and bridge interface that is designed to be easily integrated with capacitive and bridge sensors. The chip features very fast measurement times, low operating power, and very low standby currents, making it very suitable for low power and portable applications. The ASIC also includes a high-accuracy integrated temperature sensor that enables the user to compensate for temperature dependencies of the sensor elements, as needed.

| | |
|---|--|
| Temperature Range | -40 to 125°C |
| Input Capacitance Range | 2 to 7 pF |
| Temperature RMS Noise | 0.01°C |
| Capacitance RMS Noise | 0.4fF @ 1pF input range |
| Bridge RMS Noise | 4.5μVrms @ 50mV input range |
| Average Current for One Meas./sec | 14-Bit Capacitance: 0.5μA 14-Bit Temperature: 0.6μA 16-Bit Bridge: 1.7uA |
| Power Supply Voltage | 1.71 to 3.6V |
| Ultra-low Standby Current | 25nA |
| Output | Digital I ² C and SPI |
| * Customization is available. Talk to us! | |

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ABOUT MEMS VISION

Headquartered in Montreal, Canada, with offices around the world, MEMS Vision 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 Industrial, Automotive, Medical, and Consumer markets. Our products include sensors for humidity, temperature, absolute pressure, particulate matter, differential pressure, 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.