IDT Introduces Energy-Efficient Sensor Signal Conditioner for Consumer Barometric Pressure and Thermopile Sensors

The 24-Bit High-Performance IC Enables Designs for High-Precision Measurement Systems

SAN JOSE, Calif., Jan. 26, 2016—Integrated Device Technology, Inc.® (IDT®) (NASDAQ: IDTI) today introduced an energy-efficient 24-bit sensor signal conditioner (SSC) IC designed for consumer barometric pressure and thermopile sensors. With an integrated 26-bit digital signal processor (DSP) for linearization and calibration functions, the ZSSC3224 is optimized for high-resolution consumer, industrial, white goods and medical applications, and can also benefit mobile products such as phones and tablets.

Developed at recently acquired Zentrum Mikroelektronik Dresden AG (ZMDI®), the ZSSC3224 expands a family of SSCs for high-end sensor modules. Offering both accuracy and high resolution, the new sensor interface delivers high-accuracy amplification and a 24-bit precision full-featured analog-to-digital converter.

With a 24-bit output signal, the ZSSC3224 is ideal for high-precision measurement systems, including barometric altitude measurement for portable navigation or emergency call systems; altitude measurement for car navigation; pressure measurements inside hard disks; and weather forecasting equipment. The device—available in die and wafer form—can also adapt thermopile sensors to enable contactless temperature measurements of objects or human body temperature.

“We designed the ZSSC3224 to provide our customers with the high resolution and miniaturized form factor needed for their next-generation products,” said Michael Georgi, product marketing manager at IDT. “The device is designed for use with resistive pressure sensors as well as absolute voltage sensors such as thermopiles. A stacked die assembly, combined with a dedicated MEMS sensor element, can provide the lowest form factor on the market for MEMS-based sensors.”
The ZSSC3224 offers features targeting battery-driven, low-power devices, such as 1 mA typical overall current consumption, ultra-low 20 nA typical sleep mode current, and a 1.68 V to 3.6 V power supply range. Featuring an intelligent power-save scheme to help ensure the lowest overall current consumption, the device also offers internal filter options for low noise output signals and intelligent alarm and interrupt capabilities. The ZSSC3224 eliminates the need for an external buffer capacitor and it provides a superior power supply rejection ratio (PSRR) of up to 90dB at 2 V, making it attractive for applications in harsh environments.

Digital compensation of signal offset, sensitivity, temperature and non-linearity is accomplished via an internal correction algorithm with coefficients stored on-chip in a highly reliable, nonvolatile, programmable memory.

Additional features of the ZSSC3224 include:

- Quadratic form factor, optimized for stacked die assembly
- Operating temperature range: -40°C to 85°C
- Easy programming via software provided in evaluation kit
- Accuracy better than ±0.10% full-scale output
- Internal temperature measurement and signal processing
- Fully corrected digital output signal simplifying the system design

**Availability and Pricing**

The ZSSC3224 is available in production quantities. Customers can order die, wafers, samples and evaluation boards by contacting IDT directly via its regional ZMDI offices (http://zmdi.com/zmdi-offices) or via product@zmdi.com.

**About IDT**

Integrated Device Technology, Inc. develops system-level solutions that optimize its customers’ applications. IDT’s market-leading products in timing, wireless power transfer, serial switching and interfaces are among the company’s broad array of complete mixed-signal solutions for the communications, computing, consumer, automotive and industrial segments. Headquartered in San Jose, Calif., IDT has design, manufacturing, sales facilities and distribution partners throughout the world. IDT stock is traded on the NASDAQ Global Select Stock Market® under the symbol “IDTI.” Additional information about IDT is accessible at www.IDT.com. Follow IDT on Facebook, LinkedIn, Twitter, YouTube and Google+.

© 2016, IDT. IDT, the IDT logo and ZMDI are trademarks or registered trademarks of Integrated Device Technology, Inc., or its wholly-owned subsidiaries around the world. All other brands, product names and marks are or may be trademarks or registered trademarks used to identify products or services of their respective owners.