Adesto Takes Ultra-low Power Memory to the Next Level: New FusionHD™ is up to 70% Lower Power than Standard Flash

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Devices Make Next-Generation Battery-Powered Smart IoT Products a Reality

SANTA CLARA, Calif., Feb. 25, 2019 (GLOBE NEWSWIRE) -- Adesto® Technologies Corporation (NASDAQ: IOTS), a leading provider of innovative application-specific semiconductors and embedded systems for the IoT era, introduces new FusionHD™ non-volatile memories (NVMs) designed for next-generation consumer and industrial IoT edge devices. FusionHD builds on the Smart IoT feature set of Adesto's highly successful Fusion family with even more capabilities, patented low-power technology, security features, and increased memory density options.

The FusionHD product line supports the code storage and data logging demands of a wide range of feature-rich wearables, hearables, sensor edge devices and industrial systems. It delivers low power consumption, fast data transfer and robust, high-reliability operation. Unlike standard flash devices, FusionHD incorporates a Small Page Erase and Write Architecture that makes saving small packets of data quick and efficient. It also allows large data packets to be saved and accessed using minimal CPU clock cycles, reducing processing time and battery consumption.

"When we first introduced the Fusion family of NVMs, their novel design and ultra-low power operation helped extend battery life in a new generation of products such as Bluetooth® LE enabled consumer IoT devices," said Paul Hill, senior marketing director, Adesto. "Fusion quickly became our fastest-growing NVM family, and we expect FusionHD to achieve even greater success. The product adds powerful new features to address evolving market needs, and provides significant advantages across a wide range of demanding applications."

FusionHD can bring system-level advantages to long-life industrial IoT devices such as sensors, meters and monitors. The extended battery life and wide operating voltage range offered by FusionHD help to prolong the active lifetime of these devices, which are often in remote or inaccessible locations. Designed and tested to Adesto's high reliability standards, FusionHD offers increased robustness over other devices – a benefit when repair and maintenance aren't possible for extended periods.

"Whether the key design priority is low-power consumption, reliable remote operation, or small form factor, FusionHD can provide significant advantages for your design," commented Hill.

"As the processing requirements at the IoT edge continue to increase, designers must look for every possible opportunity to optimize their system design for their specific application," said Rich Wawrzyniak, principal analyst for ASIC & SoC at Semico Research Corp. "There are opportunities to make a difference at the edge by using the right non-volatile memories, such as those with higher densities, lower-power operation, security features, and the ability to perform fast, efficient offline data logging. With its new FusionHD memories, Adesto is delivering these features and more."

FusionHD includes a new suite of intelligent supervisory functions including a Battery Health Monitor and System Reset Generator, which reduce the system bill-of-materials (BOM), overall system cost and physical footprint.

In addition, FusionHD provides a range of innovative features specifically designed for power-conscious IoT edge devices:

- Flexible Memory Architecture
  - A flexible new Read/Write SRAM buffer reduces the number of times needed to write to the flash array, dramatically improving endurance while also decreasing CPU clock cycles and reducing power consumption.
  - The Small Page Erase and Write Architecture is ideal for writing small amounts of data without having to reprogram an entire page, thereby lending speed, power and endurance to the device.

- Intelligent host interface features that elevate the memory device into the 'smart peripheral' domain
  - The unique Active IRQ feature enables the device to issue an interrupt to the MCU after completing an internal program or erase operation, optimizing overall power use and reducing CPU overhead.
  - Read/Modify/Write operation enables easier software driver development and allows the CPU to focus on other tasks.

- Security features include unique device identification and a User One-Time Programmable (OTP) security register that is usable for system-level key storage.

FusionHD by the Numbers

- The power consumption of FusionHD devices is up to 70% lower than the competition, aided by the Small Page Erase feature, autonomous smart features as well as an optimized low-power design with ultra-deep power-down mode.

- FusionHD enables up to 5x faster system performance versus the competition, with features like small page erase,

Read/Modify/Write, and flexible SRAM buffer; it also achieves 104MHz SPI operation; QSPI with XiP capability allows direct code execution from the host MCU.

- FusionHD products extend the Fusion product line up to 32Mbit to support the growing memory demands of power-sensitive products.

- A wide operating voltage range of VCC 1.7V to 3.6V allows FusionHD to function with a broad variety of battery technologies and to operate from an unregulated supply voltage, potentially reducing overall BOM cost.

FusionHD supports the new Serial Flash Reset Signaling Protocol (JESD252) and the latest version of the SFDP standard (JESD216D). These standards make it easier for system designers to deliver smarter, more efficient and user-friendly devices.

Adesto will demonstrate FusionHD in its booth 4A:124 at the Embedded World Exhibition, being held February 26-28, 2019 in Nuremberg, Germany.

To learn more about FusionHD, visit www.adestotech.com/products/dual-quad-spi-memory.

Availability
Samples of FusionHD AT25XE321B are available for order now. For more information contact info@adestotech.com.

About Adesto Technologies Corporation
Adesto Technologies Corporation (NASDAQ:IOTS) is a leading provider of innovative application-specific semiconductors and embedded systems for the IoT era. The company's technology is used by more than 2,000 customers worldwide who are creating differentiated solutions across industrial, consumer, medical and communications markets. With its growing portfolio of high-value technologies, Adesto is helping its customers usher in the era of the Internet of Things. See: www.adestotech.com.

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