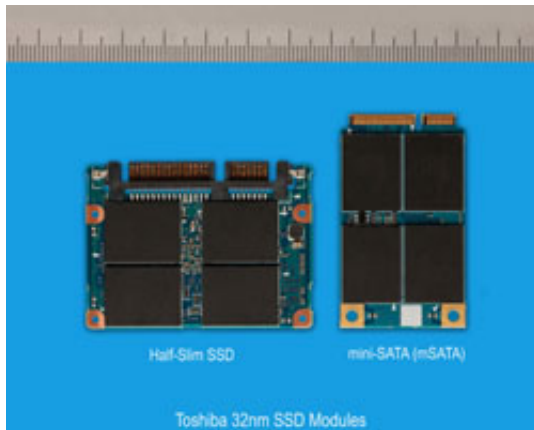


Toshiba Adds 32nm mSATA And Half-Slim Solid State Drive Modules

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Toshiba today announced a series of solid state drive (SSD) modules using the latest generation Toshiba 32nm MLC NAND flash, at Intel Developers Forum 2009. The Toshiba SG2 modules are offered in two types, one based on the new low-profile mini-SATA (mSATA) interface standard and the other a Half-Slim type, which uses a SATA connector. The drives are available in 30GB and 62GB modules. Volume production will start in October.

The two types of modules, each smaller than a business card, provide greater design flexibility and save space and cost compared to SSDs with [hard disk drive](#) form factors and cases. The 62GB module is only one seventh the volume and one eighth the weight of a 2.5-inch form factor SSD, and consumes half the power. With interface speeds up to 3 gigabits per second (Gb/s), a maximum sequential read speed of 180 megabytes per second (MBps) and a maximum sequential write speed of 70MBps, the modules will help bring the performance advantages of SSDs to notebooks, portable electronics and embedded systems. An advanced controller features a translation mode, which enables any drive

configuration, and the drive supports 28-bit LBA (Logical Block Address) mode commands and 48-bit LBA mode commands. Multi-word DMA, Ultra-DMA modes and Advanced PIO commands are supported. The drives have an optional capability for secure Full Disk Encryption (FDE) backup that prevents unauthorized data access.

Industry analyst IDC5 expects mini - notebook shipments to grow at an annual average of around 15% from 2009 to 2013, and, PC manufacturers are looking for SSDs that combine small size with higher storage capacities and advanced performance.

"Initial adoption of most SATA solid state drives has followed the HDD form factor. Our latest 32nm mSATA and Half-Slim case-less modules enable hardware designers to add the performance and reliability advantages of a [solid state drive](#) in a smaller, footprint for notebooks, portable electronics and other embedded storage applications," said Scott Nelson, VP Memory, TAEC.

The mSATA modules leverage the speed and reliability of the popular SATA interface, in a small form factor module, 1.18 in. x 0.19 in. x 2 in. (30mm x 4.75mm x 50.95mm) that connects to the system board using the low profile SATA connector. Adaptive Power Mode and SATA Device Initiated Power Management typically reduce power consumption to less than half of the Read power level when the device is in idle, standby or sleep mode.

The Half-Slim SATA II modules feature a SATA connector, measure 1.18 in. x 0.19 in. x 2 in. (54mm x 4 mm x 39mm). The Half-Slim SATA II modules have the same SATA connector used on 2.5-inch HDD and SDD form factors. Thus, this smaller form factor can easily be used in applications designed to use 2.5-inch storage form factors. The Half Slim is also JEDEC compliant.

Source: Toshiba

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