



Samsung Solid State Drives

FEATURING OUTSTANDING PERFORMANCE
AND SELF-ENCRYPTION FOR DATA PROTECTION



www.samsungssd.com

Samsung's SSD

is superior to hard drives in many areas: performance, reliability, weight, power usage, noise and security.

Proven Quality, High Performance and Differentiating Features Put Samsung SSDs Ahead of the Pack

Samsung's Solid State Drives (SSDs) are light, rugged and reliable MLC NAND flash-based PC storage devices, available in a range of sizes and densities. After being qualified by most top-tier PC suppliers, Samsung SSDs have become the most popular solid-state drives, currently offered in a variety of notebook and other portable PCs. In addition to the drives' outstanding quality, OEMs are attracted by superior performance and special features like self-encryption for greater security.

This next-generation product offers many advantages over rotating magnetic media such as better reliability and performance, remarkable ruggedness, less weight and significantly lower power consumption. For example, the performance of the 256-gigabyte Samsung SSD is 4.2 times greater¹ than a 7200 rpm notebook hard drive. Compared to an HDD², the SSD's booting and application loading time are 50% less and file copy time is 60% less.

Samsung's SSDs are ideal for traveling professionals, on-the-go students and others. SSDs use significantly less power—about 0.26 watts in operational mode and 0.15 watts in standby mode, which gives users up to 10% more battery life. In addition, the SSDs weigh 25% less than most HDDs, which further improves portability.

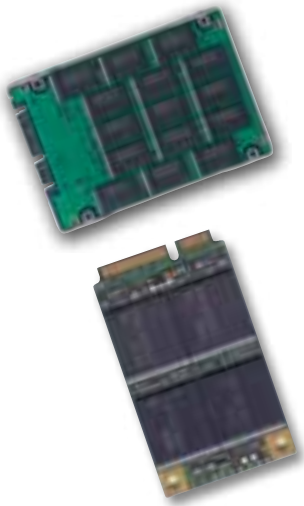
SSD vs. HDD Comparison Chart³

| SSD | | HDD |
|-----------------------|---------------------------------|----------------------------|
| 100% NAND flash | mechanism type | magnetic rotating platters |
| MTBF >1 million hours | endurance | MTBF < 600K hours |
| 1,500G/.5ms | shock resistance | 170G/.5ms |
| 3800/600 @4KB | IOPS (read/write) | 102/84 @ 4KB |
| 0.21W | active power consumption | 2W |
| 64g | weight (2.5") | 98g |
| 0°C to 70°C | operating temperature | 5°C to 55°C |

¹ Performance based on PCMark08 benchmark tests of Samsung 256GB MLC SSD vs. WD Black 1TB 7200rpm HDD. Source: Register Hardware, March 17, 2009

² Time measured with the following system specification: **Platform:** Dell E6400 (Intel core2Duo 2.4GHz, 2GB DDR2, ICH9M-E); **OS:** Windows Vista 32-bit; **SSD:** Samsung 256GB MLC SSD; **HDD:** Hitachi 7200 rpm SATA 3G 200GB

³ Samsung 128GB MLC SSD compared to industry-leading 7200 rpm hard disk drive



Samsung's SSD is available in 2.5-inch and 1.8-inch form factors (top) and in a mSATA form factor (bottom), with storage capacities ranging from 32 to 256 gigabytes.

Superior Solution for Portable PC Users Includes Self-Encryption

As a non-volatile storage device, the SSD has no moving parts such as the motor, disks and heads of a hard drive. Thus it eliminates spin-up time, seek time and rotational latency while delivering sustained high-speed data transfer. The SSD's lack of moving parts makes it noise free and its ultra-low power consumption virtually eliminates heat emissions.

One of the Samsung SSD's special features is hardware-based self-encryption to protect confidential data from unauthorized access. This security capability is TCG Opal compliant and uses the 128-bit Advanced Encryption Standard, which has been approved and adopted by the U.S. government. Compared to currently available software-based encryption, Samsung's approach offers faster performance, better security and an "always on" feature. Encryption keys and access credentials stay within the drive hardware rather than being stored in software, increasing security and simplifying management.

Your Protection Against Data Loss

Self-encryption provides protection against data-loss notifications, as mandated by the federal government and most states. In addition, information disposal costs are reduced by using the rapid-erase feature of these Samsung drives.

Since each drive has its own encryption engine, Samsung's SED solution scales up to be a viable solution for large enterprises. And, having the self-encryption integrated into the drive hardware makes the whole security process transparent to the end user.

As a highly effective alternative to software-based encryption, self-encryption in Samsung SSDs provides a proven way of avoiding the frustration of virtually any type of data loss.

Key Features & Benefits

Secure Self-encryption

- TCG Opal compliant
- No performance degradation
- 128-bit AES encryption

High Reliability

- No moving parts to fail
- Greater resistance to shock & vibration

Fast Performance

- No spin up or seek time
- Sustained high-speed data transfers
- Sustained data reads: up to 250 MB/s
- Sustained data writes: up to 220 MB/s
- Can cut boot-up time in half

Improved Operation

- Noise free
- Virtually no heat emissions
- Weighs almost 25% less than conventional storage

Reduced Power Requirements

- Consumes 1/8th the power of HDD
- Super-low operating and standby power needs
- Extends battery life up to 10%

Supports Variety of PCs

- Native SATA II (3Gb/s)
 - 64/128/256GB
 - 2.5", 1.8"
- mSATA - SATA II (3Gb/s)
 - PCIe minicard form factor
 - 16/32/64GB

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