(intel®)

Intel® X25-M and X18-M Mainstream SATA Solid-State Drives

34nm NAND Flash Memory Product Line featuring the Intel® SSD Toolbox

Intel® SSD Toolbox with Intel® SSD Optimizer

High-Performance Storage for Notebook and Desktop PCs

Intel® Solid-State Drives represent a revolutionary breakthrough that delivers a giant leap in storage performance. Intel Solid-State Drives are designed to satisfy the most demanding gamers, media creators, and technology enthusiasts. These new drives bring a high level of performance and reliability to notebook and desktop PC storage, at a fraction of the cost of the previous generation of Intel® SSD products.

Wait Less. Do More.

Why wait for a traditional hard disk drive to spin up? Unlike traditional hard disk drives, Intel Solid-State Drives have no moving parts, resulting in a quiet, cool, highly rugged storage solution that also offers faster system responsiveness. And for notebook PCs, the lower power needs of Intel Mainstream SATA SSDs translate to longer battery life and lighter notebooks. Higher performance with more durability means you can be truly mobile with confidence.

Better by Design

Drawing from decades of memory engineering experience, and new industry leading, compute-quality 34nm NAND Flash memory manufacturing processes, Intel® Mainstream SATA SSDs are designed to deliver outstanding performance. They feature the latest generation native SATA interface with an advanced architecture employing 10 parallel NAND flash channels

equipped with multi-level cell NAND flash memory. With powerful Native Command Queuing to enable up to 32 concurrent operations, Intel Mainstream SATA SSDs deliver higher input/output per second and throughput performance than other SSDs on the market today—and drastically outperform traditional hard disk drives. These drives also feature low write amplification and a unique wear-leveling design for higher reliability; meaning Intel drives not only perform better, they last longer.

Featuring the Intel® SSD Toolbox with Intel® SSD Optimizer

The Intel® SSD Toolbox with Intel® SSD Optimizer provides a set of applications to easily manage the health and optimize the performance of your Intel SSD. The Toolbox includes a powerful set of management, information, and diagnostic tools, and is designed to work best with 34nm Intel® SSDs. The Intel SSD Optimizer utilizes the new ATA Data Set Management Command (Trim Attribute) to help maintain your SSDs performance at "fresh-out-of-the-box" levels, and is specifically designed to run with Microsoft Windows 7.* Intel SSD Optimizer also works with Windows Vista* and XP* as well.

Two Options. No Worries.

Intel® Mainstream Solid-State Drives are available in either 2.5¨ (Intel® X25-M) or 1.8¨ (Intel® X18-M) standard hard drive form factors. And all Intel Mainstream SSDs are tested and validated on the latest Intel-based notebook and desktop platforms for your peace of mind.

Intel® Mainstream SATA Solid-State Drive (34nm NAND Flash Memory Product Line)

Technical Specifications	
Model Name	Intel® X18-M Mainstream SATA Solid-State Drive
	Intel® X25-M Mainstream SATA Solid-State Drive
Capacity	80 GB and 160 GB
NAND Flash Components	Intel® Multi-Level Cell (MLC) NAND Flash Memory
	10 Parallel Channel Architecture with 34nm MLC ONFI 1.0 NAND
Bandwidth	**Sustained Sequential Read:** up to 250 MB/s
	Sustained Sequential Write: up to 70 MB/s (80 GB drive) and up to 100 MB/s (160 GB drive)
Read Latency	65 microseconds
Write Latency	85 microseconds
Random I/O Operations Per Second (IOPS)[1]	**Random 4 KB Reads:** up to 35,000 IOPS
	Random 4 KB Writes: 80 G X25/X18-M – up to 6,600 IOPS
	Random 4 KB Writes: 160 G X25/X18-M – up to 8,600 IOPS
Interface	SATA 1.5 Gb/s and 3.0 Gb/s
Form Factor, Height, and Weight	**X18-M:** 1.8¨ Industry Standard Hard Drive Form Factor
	• 5 mm – 35 grams +/- 2 grams
	X25-M: 2.5¨ Industry Standard Hard Drive Form Factor
	• 7 mm – 76 grams +/- 2 grams
	• 9.5 mm – 80 grams +/- 2 grams
Compatibility	SATA revision 2.6 compliant. Compatible with SATA 3 Gb/s with Native Command Queuing and SATA 1.5 Gb/s interface rates
Life Expectancy	1.2 million hours Mean Time Before Failure (MTBF)
Power Consumption	Active: 150 mW Typical (PC workload[2])
	Idle (DIPM): 75 mW Typical
Operating Shock	1,500 G/0.5 ms
Operating Temperature	0°C to +70°C
RoHS and Halogen Free Compliance	Meets the requirements of EU Lead Free and Halogen Free Compliance Directives
Product Health Monitoring	Self-Monitoring, Analysis and Reporting Technology (SMART) commands, plus additional SSD monitoring
Available Tools	Download the firmware update at www.intel.com/go/ssdfirmware
	Download the Intel® SSD Toolbox with Intel® SSD Optimizer at www.intel.com/go/ssdtoolbox

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[1] Measurement performed on 8 GB span.

[2] Active power is measured during execution of MobileMark 2007 Productivity 2007 benchmark. Drive will initiate DIPM request to the host if idle for 25 msec whether or not standby or sleep command is received. If DIPM request is acknowledged drive will enter idle power mode.