SanDisk® X110 SSD (Solid State Drive)

INTRODUCING SATA 6 Gb/s HIGH PERFORMANCE, RELIABLE,
AND LOW POWER FOR AN ENHANCED USER EXPERIENCE.

SanDisk® X110 SSDs, based on 19nm MLC NAND flash, bring all the benefits and speed of high performance SSDs to ultrabooks, notebooks and desktops at a competitive price.

The storage device can be used as either a standalone or as a caching solution in a dual drive configuration. In both situations, X110 SSDs provide superior performance over the standalone hard disk drive, meeting Intel® Ultrabook® performance requirements. The SanDisk X110 SSD is offered in a 2.5" and customized form factors, taking full advantage of the SATA 6 Gb/s high performance interface.

**High performance.
Enhanced user experience.**
SanDisk X110 SSDs have high read/write performance to support daily computing uses that require enhanced multitasking capabilities. Uses like email, Web browsing, music, and virus scans. Without the ability to handle a high mixture of sequential and random read/write patterns, user experience can be significantly impacted.

The X110 SSDs address these issues by implementing a tiered caching technology — a hierarchical three storage layer architecture that directs data pattern streams to one of the

SATA	SAS	PCIe	

X110 KEY FEATURES

SATA REVISION 3.1 6 Gb/s COMPLIANT; BACKWARDS COMPLIANT TO SATA REVISION 2.0 3 Gb/s & SATA REVISION 1.0 1.5 Gb/s

ATA COMMAND SET ACS-2

NCQ SUPPORT UP TO QUEUE DEPTH = 32

SUPPORT FOR TRIM

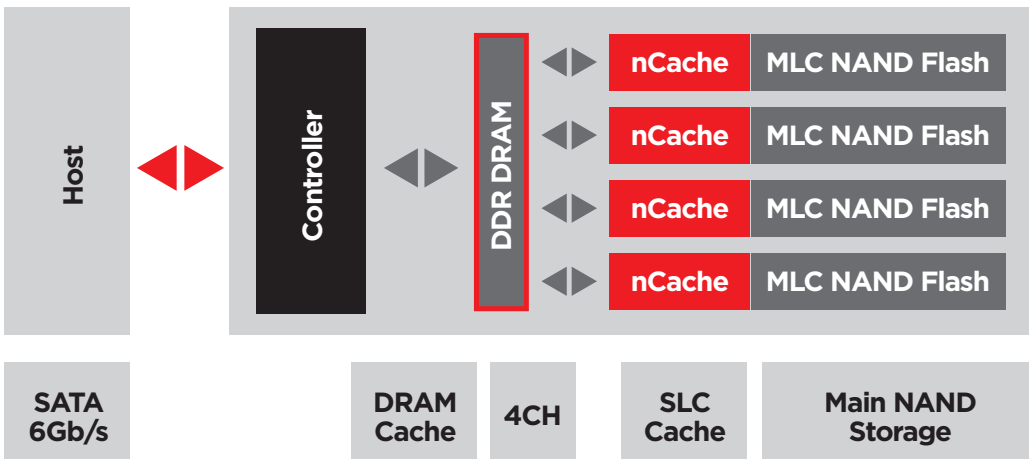**S.M.A.R.T. FEATURE SUPPORTED**

ADVANCED FLASH MANAGEMENT:

• NCACHE™ – NON-VOLATILE WRITE CACHE

• DYNAMIC AND STATIC WEAR-LEVELING

• BAD BLOCK MANAGEMENT

• BACKGROUND GARBAGE COLLECTION

ADVANCED FEATURES:

• TIERED CACHING – VOLATILE AND NONVOLATILE CACHE

• SUPPORTS MULTI STREAM

• MINIMAL WRITE AMPLIFICATION

SUPPORT FOR THERMAL THROTTLING

WINDOWS® 8 WHCK CERTIFIED

Host		Controller	DDR DRAM		nCache	MLC NAND Flash
					nCache	MLC NAND Flash
					nCache	MLC NAND Flash
					nCache	MLC NAND Flash
SATA 6Gb/s		DRAM Cache	4CH		SLC Cache	Main NAND Storage

SanDisk

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X110 SSD 6 Gb/s SATA HIGH PERFORMANCE SOLID STATE DRIVE

three most suitable layers: volatile cache (DDR DRAM), nCache™ (a non-volatile flash write cache), or mass storage (MLC NAND flash). The data pattern streams are then monitored and rearranged by a proprietary innovative multi-streaming feature that reduces fragmentation and improves locality of data. This enables fast user response, no stuttering, better multitasking capabilities, and significantly improves the drive's long-term data endurance[5], ensuring an enhanced user experience.

**Low power consumption.
Longer battery life.**
The SanDisk X110 SSDs employ a low power architecture that significantly reduces the power consumed by devices in low power modes, allowing users to extend the charge cycles of the battery, which is highly desired by mobility applications.

SanDisk® X110 SSD Product Features and Specifications
Specifications are preliminary and subject to change

Device	SanDisk X110 SSD
Form Factor	Cased 2.5" 7mm
Interface	SATA Revision 3.1 (6 Gb/s) backward compatible to SATA Revision 2.0 (3 Gb/s) and SATA Revision 1.0 (1.5 Gb/s)
Capacity (GB)[1]	64, 128, 256
Performance	
PCMark Vantage Score	75K
PCMark 7 Score	Up to 5,200
Sequential Read/Write[3]	Up to 505 MB/s / 445 MB/s
Random Read/Write[3]	Up to 81,000 / 44,000 IOPS
MTBF[4]	Up to 2,000,000 hours
Endurance[5]	>80 TBW
Size	Cased 2.5": 7.0mm x 69.85mm x 100.5mm
Weight[7]	Cased 2.5": Up to 39.5g
Power Consumption	
DC Supply	Cased 2.5": +5.0V, ±5%
Standby Mode (Typical)[2]	75mW (@ 3.3V)
Active Power (Typical)[6]	120mW (@ 3.3V)
Other	
Operating Temperatures	0°C to 70°C
Storage Temperatures	-55°C to 85°C
Acoustic Noise	0dB
Certifications	FCC, CE, UL, ULc, TUV, KC, BSMI, ACA, VCCI
Warranty	5 years

Specifications subject to change without notice.
[1] 1GB = 1,000,000,000 bytes. Actual user capacity less.
[2] Test Platform: Dell Optiplex 990, RAM 4GB, Microsoft Windows 7 Ultimate 64-bit, Processor: Intel® Core™ i7 2600 CPU @ 3.40GHz, Intel driver: 10.6.0.1022
[3] CrystalDiskMark, 5GB span, 3 iterations.
[4] MTBF – Mean Time Between Failures based on part stress analysis.
[5] Approximations based on an industry metric, introduced by SanDisk, that quantifies how much data can be written to a SSD in its lifespan expressed in terabytes written (TBW). Data is written using typical PC transfer size, written at a constant rate over the life of the SSD and data is retained for at least 1 year upon TBW exhaustion. Based on SanDisk internal measurements, a typical client PC user writes 4 GB/day.
[6] While running MobileMark 2007, using a FLUKE 187, 1 sec interval, Active Power is the typical of the average measurements. Performed on Dell D630 Notebook platform
[7] Dimensions and weight vary based on form factor and capacity.

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Ordering Information

Description	P/N
SanDisk X110 SSD 2.5" 7mm Cased 64GB	SD6SB1M-064G-1022i
SanDisk X110 SSD 2.5" 7mm Cased 128GB	SD6SB1M-128G-1022i
SanDisk X110 SSD 2.5" 7mm Cased 256GB	SD6SB1M-256G-1022i

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