



SanDisk® X400 SSD (Solid State Drive)

THE RIGHT CHOICE FOR SERVER BOOT DRIVE

The SanDisk® X400 SSD (X400) is the upper-tier SATA client SSD, successfully used in servers or for read-intensive and boot/logging applications. It is designed with DataGuard™ Client technology and LDPC error correction mechanisms to provide greater reliability and high-grade endurance for longevity and is backed by a five-year warranty⁵.

To address encryption requirements, the X400 SED sku supports self-encrypted TCG OPAL 2.0, including Crypto-Erase capabilities.

Natural migration from Enterprise HDDs

This ideal storage device introduces the best migration plan for enterprise boot HDDs, allowing you to choose the right capacity point for your application and logging requirements, with capacities as low as 128GB and up to 1TB. The X400 delivers substantially better random read performance and unleashes the full potential of your server grade system and its high-end CPU capabilities. The X400's pricing is on par with enterprise HDDs and allows for major cost savings on the lower capacities.

M.2 and 2.5"/7mm cased form factor support

The X400 supports the new M.2 2280 form factor, gaining popularity within the server community and broadly adopted by motherboard manufacturers, as well as blade designs. The M.2 allows for a smaller physical footprint and is the new de-facto SSD-only form factor. Additionally, the X400 is available in 2.5"/7mm-height to serve as a true drop-in replacement for mechanical HDDs. Both form factors are supported across all capacity points, allowing for as small as 128GB, through 256GB and 512GB and up to 1TB.

SATA	SAS	PCIe
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X400 KEY FEATURES

UP TO 1TB IN A SINGLE-SIDED M.2 2280 AND 2.5"/7MM CASED FORM FACTORS

GREATER RELIABILITY WITH DATAGUARD™ CLIENT AND THE NEW LDPC ERROR CORRECTION MECHANISM

5-YEAR WARRANTY

AVAILABLE IN 128GB, 256GB, 512GB, AND 1TB CAPACITIES IN BOTH 2.5"/7MM CASED AND M.2 2280 FORM FACTOR

CRYPTO-ERASE SUPPORT ON SED SKUS BASED ON TCG OPAL 2.0

VALIDATED ON WINDOWS SERVER AND LINUX ENTERPRISE OS

Ultra-reliable systems with high-grade endurance

DataGuard™ Client technology and LDPC error correction on the X400 SSD delivers high reliability and endurance of up to 320 terabytes written (TBW)². A dedicated on-the-fly hardware core performs progressive error correction to minimize the impact on latency and performance, while maintaining low power usage. The X400 SSD product family includes a 5-year warranty.

Crypto-Erase

The SanDisk X400 with self-encryption support not only secures user information by implementing data encryption, but also supports Crypto-Erase, which has the ability to remove all user data in less than a second by deleting all security keys.

Over Provision

X400 SSD supports Over Provisioning through standard and available command and tools, allowing for better endurance and write performance. Typical over provisioning configurations ask for 7% OP, but cases where higher endurance is required can facilitate 50% OP as well.

Specifications subject to change without notice.
¹ 1GB=1,000,000,000 bytes. Actual user storage less.
² TBW (terabytes written) values calculated using JEDEC client workload (JESD219) and vary by product capacity.
³ Performance is based on the CrystalDiskMark benchmark using a 1000MB LBA range on Gigabyte GA-Z77X-UD5H desktop with Intel Z77 chipset, Intel i7-3770 3.4GHz, 8M, Ivy Bridge, Windows 8 64-bit SP1 using Intel IRST version 11.7.0.1013, secondary drive, C-state off. Performance may vary based on host device. 1 MB = 1,000,000 bytes. IOPS = input/output operations per second.
⁴ MTF = Mean Time To Failure based on internal testing using Telcordia stress part testing.
⁵ 5-year warranty in regions not recognizing "limited". See www.sandisk.com/wug for more details.
⁶ Measured using the MobileMark™ 2012 benchmark with DIMP (Device Initiated Power Management) enabled.
^{*} X400 SED will be available in Q2/2016. Please check with your SanDisk sales representative for ordering and SKU information.

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 a Western Digital brand

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SanDisk X400 SSD Product Features and Specifications

Specifications are subject to change

Device	SanDisk X400 SSD			
Form Factor	2.5"/7mm cased, M.2 (2280)			
Interface	SATA III (6 Gb/s) backward compatible to SATA II and I			
Size & Weight	2.5"/7mm cased:	7.00mm x 69.85mm x 100.5mm @37.4g, 59.7g(1TB)		
	M.2 2280:	1.5mm x 22.00mm x 80.0mm @ 7 ± 1g		
Performance [4KB QD32]³	128GB	256GB	512GB	1TB
Seq. Read up to (MB/s)	540	540	540	545
Seq. Write up to (MB/s)	340	520	520	520
Rand Read up to (IOPS)	93.5k	93.5k	93.5k	95k
Rand Write up to (IOPS)	60k	60k	75k	75k
0.3 Drive Writes per Day² for 5 years				
Endurance (TBW)²	72	80	160	320
Power⁶	128GB	256GB	512GB	1TB
Avg. Active Power (mW)⁵	70	70	70	70
Max Read Operating (mW)	2,050	2,350	2,850	2,850
Reliability				
MTTF⁴	Up to 1.75M hours			
Environmental				
Operating Temperatures	0°C to 70°C			
Non-operating Temperatures	-55°C to 85°C			
Operating Vibration	5.0 gRMS, 10 - 2000 Hz			
Non-operating Vibration	4.9 gRMS, 7 - 800 Hz			
Shock	1,500 G @0.5 msec half sine			
Certifications	FCC, UL, TUV, KC, BSMI, VCCI			
Warranty⁵	5 years			

X400 compatibility with Linux Enterprise & Windows Server OS:

- Windows 7, Windows 8, Windows 8.1, Windows 10
- Windows server 2012 R2
- Red Hat Enterprise Linux 5.5, 5.6, 6.1, 6.3, 7.0
- CentOS 64-bit 5.7, 6.3
- Free BSD

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