



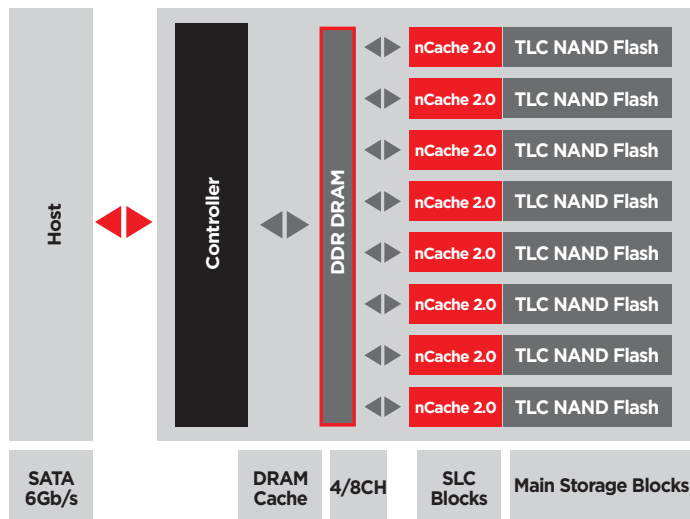
SanDisk® X300 SSD (Solid State Drive)

RELIABLE AND RESPONSIVE PERFORMANCE WITH LOW POWER



Based on state of the art 1Ynm TLC flash technology, the SanDisk X300 SSD delivers performance with high reliability and low power. It features nCache™ 2.0, SanDisk's next generation tiered caching technology, designed to improve SSD responsiveness for most corporate and consumer workloads.

The X300 is highly versatile and can accommodate a wide range of computing platforms. It is available in 2.5" 7mm cased, M.2 2280, and mSATA form factors with capacities of 128GB, 256GB, 512GB, and 1TB*.



SATA	SAS	PCIe
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X300 KEY FEATURES

NCACHE 2.0 - IMPROVES SSD RESPONSIVENESS FOR HIGH PRODUCTIVITY WORKLOADS

ON CHIP COPY (OCC) - OFFLOADS WORK FROM CONTROLLER AND DDR RESOURCES TO IMPROVE PERFORMANCE

MULTI PAGE RECOVERY (MPR) - PROVIDES AN ADDITIONAL LAYER OF DATA PROTECTION USING PAGE-LEVEL STRIPING WITH DISTRIBUTED PARITY

LOW POWER WITH DEVSLP SUPPORT

UP TO 1TB CAPACITIES IN 2.5" 7MM, M.2 2280, AND MSATA FORM FACTORS

TESTED FOR 72 TBW (128GB) AND 80 TBW (256GB-1TB)

SATA REVISION 3.2 6GB/S INTERFACE

WINDOWS® WHCK CERTIFIED

DYNAMIC THERMAL THROTTLING

nCache 2.0 Technology

nCache 2.0 uses a combination of both SLC and TLC flash blocks to improve endurance, increase efficiency, and boost performance. By first writing all of the data to SLC blocks, the write amplification on the TLC blocks is minimized. The new On Chip Copy (OCC) mechanism then independently copies the SLC cache blocks into the TLC blocks in main storage, thus offloading the burden from the controller and DDR resources. This leaves the DRAM cache and controller free for other tasks.

Reliability

The X300 SSD also includes a new and robust on-the-fly error handling mechanism called Multi-Page Recovery (MPR). It uses page-level striping with distributed parity for an added layer of data protection and can recover errors that other traditional error correction mechanisms cannot.

Low Power

The X300 utilizes a SATA DEVSLP low-power mode to minimize its power consumption during idle periods. DEVSLP enables the SSD to completely shut off its SATA PHY, thus resulting in much lower power consumption compared to SATA Slumber. This increases the amount of usable hours per battery charge, which is essential for modern mobile devices.

Specifications subject to change without notice.
¹ 8-channel, only available as SATA 2.5" 7mm cased form factor.
² Up to stated speed. Performance is based on the CrystalDiskMark benchmark using a 1000MB range for an X300 SSD setup as a secondary drive on a GIGABYTE GA-Z77X-UD5H host system consisting of an Intel® i7-3770 3.4GHz, 8M, Ivy Bridge, 8GB RAM, Windows 8, andIRST 12.9. Performance may vary based on host device. 1 megabyte (MB) = 1 million bytes. IOPS = input/output operations per second.
³ Endurance of the X300 SSD is calculated using JEDEC client workload (JESD219). TBW = terabytes written.
⁴ Power measurements 25°C. Based on FW version with H1PM-enable.
⁵ MTTF = Mean Time To Failure based on internal testing using Telcordia stress part testing.
⁶ 5 year warranty in regions not recognizing "limited". See www.sandisk.com/

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SanDisk® X300 SSD Product Features and Specifications

Specifications are preliminary and subject to change

Device	SanDisk X300 SSD				
Form Factor	7mm 2.5-inch Cased, M.2 2280, mSATA				
Interface	SATA III (6 Gb/s) backward compatible to SATA II (3 Gb/s) and SATA I (1.5 Gb/s)				
Performance ¹	128GB	256GB	512GB	512GB*	1TB*
Seq. Read up to (MB/s)	520	520	525	530	520
Seq. Write up to (MB/s)	415	470	470	470	460
Rand Read up to (IOPS)	73k	91k	96k	94k	98k
Rand Write up to (IOPS)	40k	57k	68k	70k	67k
Endurance (TBW)²	up to 72	up to 80	up to 80	up to 80	up to 80
Power (Average)	128GB	256GB	512GB	512GB*	1TB*
Active Power (mW)³	95	95	95	95	95
Max Read Operating (mW)	2,300	2,450	2,500	2,500	2,500
Max Write Operating (mW)	2,950	3,900	3,900	3,900	3,900
Slumber (mW)	70	70	70	70	70
DEVSLP (mW)	<7	<7	<7	<7	<7
MTTF⁴	Up to 1,752,000 hours				
Product Dimensions & Weight	2.5":	7.00mm x 69.85mm x 100.5mm @ 58 ± 3g			
	M.2 2280:	2.23mm x 22.00mm x 80.0mm @ 7.5 ± 0.5g			
	mSATA:	3.82mm x 29.85mm x 50.8mm @ 7.5 ± 0.5g			
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				

Ordering Information

Form Factor	Capacity	SKU #
M.2 2280	128GB	SD7SN6S-128G-1022/1122
M.2 2280	256GB	SD7SN6S-256G-1022/1122
M.2 2280	512GB	SD7SN6S-512G-1022/1122
mSATA	128GB	SD7SF6S-128G-1022/1122
mSATA	256GB	SD7SF6S-256G-1022/1122
mSATA	512GB	SD7SF6S-512G-1022/1122
2.5" 7mm	128GB	SD7SB6S-128G-1022/1122
2.5" 7mm	256GB	SD7SB6S-256G-1022/1122
2.5" 7mm	512GB	SD7SB7S-512G-1022/1122
2.5" 7mm	1TB	SD7SB7S-010T-1022/1122

Pack-Out Option Use:
 -1022 = Bulk
 -1122 = Individual Package