Western Digital

Highlights

- Western Digital 96-layer 3D NAND delivers capacities up to 1TB[2] for a multitude of design options

- 2.5"/7mm cased or M.2 2280 form factors provide needed space savings and design flexibility

- Leading edge SATA Performance up to 560MB/s sequential read

Western Digital® PC SA530 3D NAND SATA SSD

Exceptional Storage Options for a Broad Range of Computing Applications

High Performance and High Capacity for Computing

Based on Western Digital 96-layer 3D NAND, the Western Digital PC SA530 3D NAND SATA SSD delivers high performance, high capacity, and superior endurance. In capacities of up to 1TB, the Western Digital PC SA530 achieves this while expending less power than our previous generations of SATA SSDs.

The Western Digital PC SA530 combines Western Digital's state-of-the-art 96-layer 3D NAND technology with our proven SSD platform. It also incorporates nCache™ 2.0, a tiered caching technology designed to improve responsiveness for corporate and consumer workloads. nCache 2.0 uses a combination of both SLC (single level cell) and TLC flash blocks to improve endurance, increase efficiency, and boost performance. Writing data first to the SLC cache reduces write amplification on the TLC blocks.

With on-the-fly hardware-based encryption, the Western Digital PC SA530 (SED models only) provides complete end-to-end encryption to the storage, system and infrastructure. It supports password protection, AES-256-bit encryption, TCG-OPAL 2.01 standard and PSID.

Lower Power, Higher Capacity and Thin Form Factors Offers Design Flexibility

The Western Digital PC SA530 is optimized for the demanding power management requirements of ultra-thin and small form factor products.

It features Device Sleep (DEVSLP), more frequent use of low-power modes, and faster transitions between various power modes. Also included for superior error recovery, DataGuard™ Client provides a robust on-the-fly error handling technology.

With a variety of design and integration options for manufacturers and systems builders, the Western Digital PC SA530 is available in either an SATA 2.5"/7mm cased or an M.2 2280 form factor, with capacities of 256 gigabytes (GB), 512GB, and 1 terabyte (TB).

Western Digital PC SA530 3D NAND SATA SSD Product Features and Specifications

Form Factor	2.5"/7mm cased, M.2 2280		
Interface [1,2]	SATA 6 Gb/s		
Size & Weight	2.5"/7mm cased: M.2 2280:	256GB – 1TB: 256GB – 1TB:	7.00mm x 69.85mm x 100.2mm @ 37.4g 2.23mm x 22.00mm x 80.0mm @ 7 ± 1g

Performance [4KB QD32] [2,3]	256GB	512GB	1TB
Sequential Read up to (MB/s)	550	560	560
Sequential Write up to (MB/s)	525	530	530
Random Read up to (IOPS)	95K	95K	95K
Random Write up to (IOPS)	81K	84K	84K
Endurance (TBW) [4]	100	200	400

Power [5]			
Avg. Active Power (mW)	52	52	60
Max Read Operating (mW)	2200	2050	2550
Max Write Operating (mW)	2250	3350	3750
Slumber (mW)	56	56	56
DEVSLP (mW)	5–7	5–7	5–12

Reliability	
MTTF [6]	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, Morocco
Limited Warranty [7]	5 years

Model	Bulk SKU	Single Pack SKU	Form Factor	Capacity	Security
PC SA530	SDASB8Y-256G	SDASB8Y-256G-1122	2.5" 7mm	256GB	None
PC SA530	SDASB8Y-512G	SDASB8Y-512G-1122	2.5" 7mm	512GB	None
PC SA530	SDASB8Y-1T00	SDASB8Y-1T00-1122	2.5" 7mm	1TB	None
PC SA530	SDASN8Y-256G	SDASN8Y-256G-1122	M.2 2280	256GB	None
PC SA530	SDASN8Y-512G	SDASN8Y-512G-1122	M.2 2280	512GB	None
PC SA530	SDASN8Y-1T00	SDASN8Y-1T00-1122	M.2 2280	1TB	None
PC SA530	SDATB8Y-256G	SDATB8Y-256G-1122	2.5" 7mm	256GB	TCG Opal 2.01
PC SA530	SDATB8Y-512G	SDATB8Y-512G-1122	2.5" 7mm	512GB	TCG Opal 2.01
PC SA530	SDATB8Y-1T00	SDATB8Y-1T00-1122	2.5" 7mm	1TB	TCG Opal 2.01
PC SA530	SDATN8Y-256G	SDATN8Y-256G-1122	M.2 2280	256GB	TCG Opal 2.01
PC SA530	SDATN8Y-512G	SDATN8Y-512G-1122	M.2 2280	512GB	TCG Opal 2.01
PC SA530	SDATN8Y-1T00	SDATN8Y-1T00-1122	M.2 2280	1TB	TCG Opal 2.01

Contact your Western Digital sales representative regarding 128GB and 2TB capacities.

[1] Backwards compatible to SATA 3 Gb/s and SATA 1.5 Gb/s.

[2] 1MB= 1 million bytes, 1GB=1 billion bytes and 1TB=one trillion bytes. Actual user capacity may be less depending on operating environment. Effective maximum SATA 6 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

[3] Measured using CrystalDiskMark, 1000MB LBA range, on Laptop Asus N550J HM86 Express chipset, Windows 8.1 Pro with Intel® iRST version 14.8.16.1063, secondary drive with Intel Core i7–4700HQ 2.4GHz, 8GB DDR3 1600MHz RAM.

[4] TBW (terabytes written) values calculated using JEDEC client workload (JESD219) and vary by product capacity.

[5] Power measurements at 25°C. Based on firmware version with DIPM enabled. Measured using MobileMark® 2014 on Lenovo T560, Intel Core i5–6200U 2.30GHz Processor, DDR3L 4GB 1600MHz RAM, Windows 10 with Intel Driver iRST 14.8.0.1042.

[6] MTTF = Mean Time To Failure based on internal testing using Telcordia stress part testing.

[7] See https://www.westerndigital.com/support/warranty-statement/ commercial-product-warranty-policy for regional specific warranty details.

Western Digital.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[SanDisk](#):

[SDASN8Y-512G](#) [SDASB8Y-1T00](#) [SDASB8Y-256G](#) [SDASN8Y-1T00](#) [SDATB8Y-1T00](#) [SDATB8Y-512G](#) [SDATN8Y-256G](#) [SDATN8Y-512G](#) [SDASN8Y-256G](#) [SDATB8Y-256G](#) [SDASB8Y-512G](#) [SDATN8Y-1T00](#) [SDASB8Y-1T00-1122](#) [SDASB8Y-256G-1122](#) [SDASB8Y-512G-1122](#) [SDASN8Y-1T00-1122](#) [SDASN8Y-256G-1122](#) [SDASN8Y-512G-1122](#) [SDATB8Y-1T00-1122](#) [SDATB8Y-256G-1122](#) [SDATB8Y-512G-1122](#) [SDATN8Y-1T00-1122](#) [SDATN8Y-256G-1122](#) [SDATN8Y-512G-1122](#)