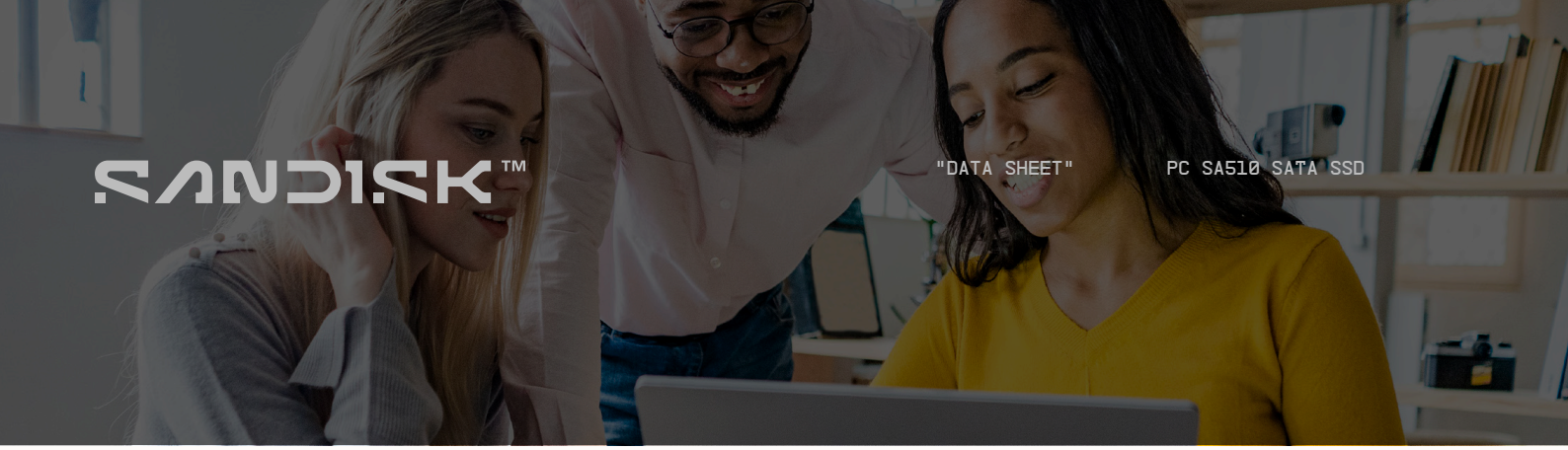

Product Highlights

- SANDISK® 3D NAND delivers capacities up to 1TB[1] 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[2] sequential read

(→) SANDISK® PC SA510 SATA SSD

Big Performance in a Small Package

Capacity and Performance for Modern-Day Computing

Based on 3D NAND, the SANDISK® PC SA510 SATA SSD delivers high performance and reliability with low power consumption. In capacities of up to 1TB,[1] the SANDISK PC SA510 SSD achieves this while expending less power.

Built for High Performance

This drive combines Sandisk's TLC (triple level cell) 3D flash technology with our proven SSD platform. It also incorporates nCache™ 2.0, the next generation of tiered cashing technology designed by Sandisk 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 help improve endurance, increase efficiency, and boost performance. By writing data to the SLC cache first, write amplification on the TLC blocks is decreased.

Thin Form Factors for Design Flexibility

The SANDISK® PC SA510 SATA SSD is optimized for the demanding power management requirements of ultra-thin and small form factor products, and is available in either a SATA 2.5"/7mm cased or an M.2 2280 form factor.

Created for High Efficiency

This drive also features Device Sleep (DEVSLP), more frequent use of low-power modes, and faster transitions between various power modes.

	250GB[1]	500GB[1]	1TB[1]
Product Specifications			
Form Factors		2.5"/7mm cased, M.2 2280	
Interface[3]		SATA 6Gb/s	
Size & Weight	2.5"/7mm cased	250GB - 1TB	100.2mm × 69.85mm × 7.00mm @ 34.6g ± 1g
	M.2 2280	250GB - 1TB	80.0mm × 22.00mm × 2.23mm @ 4.8g ± 1g
Performance [4KB QD32][2]			
Sequential Read up to (MB/s)	560	560	560
Sequential Write up to (MB/s)	465	510	520
Random Read up to (IOPS)	85K	91K	91K
Random Write up to (IOPS)	81K	82K	84K
Endurance (TBW)[4]	100	200	400
Power			
Avg. Active Power (mW)[5]	50	50	60
Max Read Operating (mW)[5]	1800	1800	1800
Max Write Operating (mW)[5]	2000	2000	2000
Slumber (mW)[5]			
2.5"/7mm cased	20	25	26
M.2 2280	19	22	25
DEVSLP (mW)[5]			
2.5"/7mm cased	7.5	7.5	12
M.2 2280	6	7	7
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	Form Factor	Capacity[1]
PC SA510	SDBSBXD-250G	2.5"/7mm	250GB
PC SA510	SDBSBXD-500G	2.5"/7mm	500GB
PC SA510	SDBSBXD-1000	2.5"/7mm	1TB
PC SA510	SDBSNXD-250G	M.2 2280	250GB
PC SA510	SDBSNXD-500G	M.2 2280	500GB
PC SA510	SDBSNXD-1000	M.2 2280	1TB

1. 1GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment. Some of the drive capacity is used for formatting and other functions and is not available for data storage.
2. 1 MB/s = 1 million bytes per second. Based on internal testing; performance may vary depending upon host device, usage conditions, drive capacity, and other factors. IOPS = input/output operations per second. Performance measured using CrystalDiskMark (1000MB LBA range) on SATA 6Gb/s host.
3. Backwards-compatible to SATA 3 Gb/s and SATA 1.5 Gb/s.
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. Power measured (all capacities) via MobileMark™ 2014 @ 3.3V on SATA 6Gb/s host (drive configured, DIPM enabled, HIPM disabled). Power consumption can vary due to input voltage and ambient temperature variation.
6. MTTF = Mean Time To Failure based on internal testing using Telcordia stress part testing (Telcordia SR-332, GB, 25°C). MTTF is based on a sample population and is estimated by statistical measurements and acceleration algorithms. MTTF does not predict an individual drive's reliability and does not constitute a warranty.
7. See sandisk.com/support for regional specific warranty details.

SANDISK and the SANDISK logo are registered trademarks or trademarks of Sandisk Corporation or its affiliates in the US and/or other countries. The NVMe word mark is a trademark of NVM Express, Inc. PCIe® is a registered trademark of PCI-SIG. All other marks are the property of their respective owners. Product specifications subject to change without notice. Pictures shown may vary from actual products. References to SANDISK products do not imply they will be made available in all regions.

©2025 Sandisk Corporation or its affiliates. All rights reserved.

951 SANDISK DRIVE
MILPITAS, CA 95035, USA
WWW.SANDISK.COM

JULY 2025