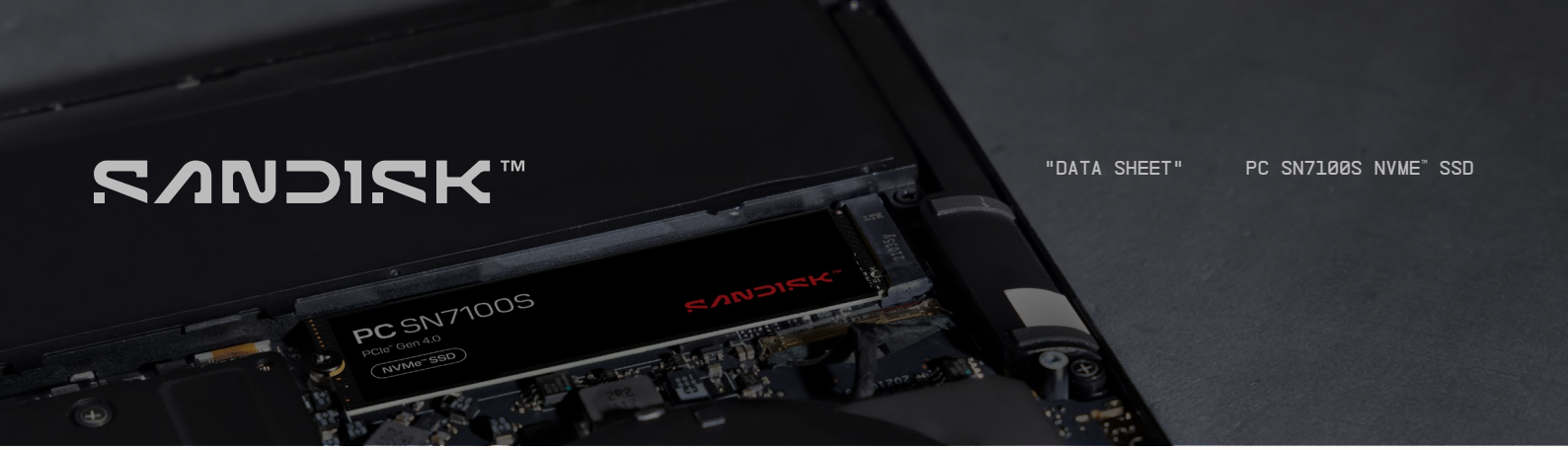

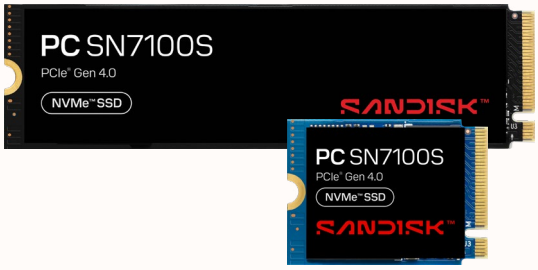

(→) SANDISK® PC SN7100S NVMe™ SSD

High-performance and energy-efficient client NVMe™ SSD for mainstream compute workloads and AI-enabled workflows

The SANDISK® PC SN7100S NVMe™ SSD with PCIe® Gen 4.0 exceeds expectations for mainstream client NVMe™ SSDs for laptop and desktop PC designs. Engineered with a full vertically-integrated design and built with the next-generation SANDISK® TLC 3D CBA NAND, the SANDISK® PC SN7100S NVMe™ SSD combines a new level of TLC performance and power efficiency for DRAM-less client SSDs providing sequential read and write speeds up to 7,250 MB/s[2] and 6,900 MB/s[2] and random read and write speeds up to 1M IOPS[3] and 1.4M IOPS[3] (1,024GB-2,048GB[1] models). Capacities are available in 256GB,[1] 512GB,[1] 1,024GB,[1] and 2,048GB[1] in M.2 2280 and M.2 2230 form factors to accommodate a range of system designs. The SANDISK® PC SN7100S NVMe™ SSDs are equipped with upgraded security features including RSA-3K and SHA-384 and offers optional self-encryption for data-at-rest protection with TCG Opal Version 2.02.

Product Highlights

- PCIe® Gen4 ×4 with NVMe™ 2.0c
- SANDISK® TLC 3D NAND
- Capacities: 256GB, 512GB, 1,024GB, 2,048GB[1]
- Form-factors: M.2 2280 S3-M, M.2 2230 S3-M
- Sequential read speeds up to 7,250MB/s[2] and write speeds up to 6900MB/s[2] (1,024GB-2,048GB[1] models)
- High endurance up to 1,200 TBW[5] (2,048GB[1] model)
- SANDISK® nCache™ 4.0 Technology
- Optional TCG Opal 2.02

Features

Our Next Generation Mainstream Client NVMe™ SSD

Designed for laptop and desktop PCs or small form factor system designs, the SANDISK® PC SN7100S NVMe™ SSD delivers high storage throughput and unmatched energy efficiency. Harnessing the power of PCIe® Gen 4.0 and NVMe™ 2.0c technologies, the SANDISK® PC SN7100S NVMe™ SSD is the ideal storage for mainstream compute workloads and AI-enabled workflows.

Unrivaled Engineering

The SANDISK® PC SN7100S NVMe™ SSD is engineered with a vertically integrated DRAM-less design with the next generation SANDISK® TLC 3D NAND and the SANDISK® nCache™ 4.0 Technology to deliver unrivaled performance and cost effectiveness for NVMe™ storage.

Designed for Demanding Workloads

With a new level of performance for DRAM-less SSDs, the SANDISK® PC SN7100S SSD achieves up to 7,250 MB/s[2] sequential read speeds and 6,900 MB/s[2] sequential write speeds (1,024GB-2, 048GB[1] models), fueling storage performance for demanding workloads and AI-enabled workflows. And with random read speeds up to 1M IOPS[3] and random write speeds up to 1.4M IOPS[3] (1,024GB-2,048GB[1] models), system designs are exceptionally responsive, giving low latency access to storage.

Robust Data Protection

The SANDISK® PC SN7100S NVMe™ SSD is equipped with the latest security features to help protect sensitive data. TCG Pyrite 2.01 encryption, RSA-3K, and SHA-384 algorithms provide a strong defense against unauthorized access. Additionally, the SANDISK® PC SN7100S NVMe™ SSD is available with TCG Opal v2.02 for data-at-rest encryption for system designs which must meet a higher level of security.

Durable and Reliable

Built with an endurance rating of up to 1,200 TBW[5] (2,048GB[1] model), the SANDISK® PC SN7100S NVMe™ SSD is dependable to handle demanding workloads without compromising performance or uptime. It boasts a mean time between failures (MTTF[7]) up to 1.75 million hours,[5] ensuring long lasting operation in the field. Finally, the SANDISK® PC SN7100S NVMe™ SSD is backed with a 5-year limited warranty,[11] offering peace of mind for end users.

Increased Energy Efficiency

Optimize device usage with over 70% more energy efficiency at maximum speed over the previous generation.[13]

	256GB[1]	512GB[1]	1,024GB[1]	2,048GB[1]
Product specifications				
Form Factor	M.2 2280 S3-M, M.2 2230 S3-M			
Interface[4]	PCIe® Gen 4.0 x 4, NVMe 2.0c			
NAND Type	SANDISK TLC 3D NAND			
Performance				
Sequential Read up to (MB/s)[2]	6,200	6,800	7,250	7,250
Sequential Write up to (MB/s)[2]	4,400	5,800	6,900	6,900
Random Read 4KB IOPS up to[3]	510K	760K	1,000K	1,000K
Random Write 4KB IOPS up to[3]	1,000K	1,200K	1,400K	1,400K
Reliability				
Endurance (TBW)[5]	200	300	600	1,200
MTTF (hours)[7]	1.75M hours			
Limited Warranty[11]	5 years			
Power[6]				
Peak Power	4.6W	3.9W	4.3W	4.7W
Average Active Power	95mW			
Sleep (PS4)	4.0mW			
Regulatory				
RoHS Compliant[8]	Yes			
Certifications	FCC, UL, TÜV, KCC, BSMI, VCCI, RCM			
Environmental				
Operating Temperature[9]	32°F to 185°F (0°C to 85°C)			
Non-Operating Temperature[10]	-40°F to 185°F (-40°C to +85°C)			
Operating Vibration	5 gRMS, 10 to 2,000Hz. 3 axes			
Non-Operating Vibration	4.9 gRMS, 7 to 800Hz. 3 axes			
Shock	1,500G @0.5 ms half sine			
Physical Dimensions[12]				
Length	M.2 2280: 80mm, M.2 2230: 30mm			
Width	22mm			
Height	2.38mm			
Weight	M.2 2280: 5.9g, M.2 2230: 2.8g			

Ordering Information

Form Factor	Security	256GB[1]	512GB[1]	1,024GB[1]	2,048GB[1]
M.2 2280	Non-SED	SDFPNSK-256G	SDFPNSL-512G	SDFPNSL-1T00	SDFPNSL-2T00
M.2 2280	SED	SDFQNSK-256G	SDFQNSL-512G	SDFQNSL-1T00	SDFQNSL-2T00
M.2 2230	Non-SED	SDFPTSK-256G	SDFPTSL-512G	SDFPTSL-1T00	SDFPTSL-2T00
M.2 2230	SED	SDFQTSK-256G	SDFQTSL-512G	SDFQTSL-1T00	SDFQTSL-2T00

1. 1GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.
2. Based on read speed, unless otherwise stated. 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. Sequential performance based on QD8, Thread 1, and transfer size of 1MiB.
3. IOPS = input/output operations per second. Random Performance based on QD32, 16 threads, and transfer size of 4KiB.
4. Backward compatible with PCIe Gen4 ×2, PCIe Gen3 ×4, PCIe Gen3 ×2, PCIe Gen3 ×1, PCIe Gen2 ×4, PCIe Gen2 ×2, and PCIe Gen2 ×1.
5. TBW (terabytes written) values calculated using JEDEC client workload (JESD219) and vary by product capacity.
6. Average Power is measured using MobileMark™ 25 on Windows 11 Pro (version 10.0.22621 Build 22621) Bios version Insyde Corp v1.06, Intel RST driver at 25°C. Peak power is the maximum instantaneous power measured while continuously processing sequential read and write commands (tested separately) for at least 1 minute, with a transfer size of 256 sectors per command (128KB), queue depth of 32 and 1 threads,
with sampling interval of 10us. Low Power referring to NVMe PS4 at 25°C.
7. 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.
8. This drive is in compliance with the European Union Directive 2011/65/EU and Directive (EU) 2015/863 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.
9. Operational temperature is defined as temperature reported by the drive. Note that drive temperature readings are expected to be higher than ambient temperature when the SSD is placed inside a system. The SSD box package is rated up to 60°C.
10. Non-operational storage temperature does not guarantee data retention.
11. 5 years or Max Endurance (TBW) limit, whichever occurs first. See shop.sandisk.com/support for regional specific warranty details.
12. Physical product dimensions for length and width may vary by ± 0.10mm and product weight may vary by ± 10%.
13. Over 70% better power efficiency as compared to the SANDISK SN740 NVMe SSD (1,024GB and 2,048GB models).

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

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