SANDISK™

(→) SANDISK® PC SN5100S NVMe™ SSD
Storage for all-purpose computing

The SANDISK® PC SN5100S NVMe™ SSD with PCIe® Gen 4.0 read speeds up to 7,300 MB/s and write speeds up to 6,700 MB/s[1] (1,024GB – 2,048GB[2] models) is the ideal solution for system designs, providing an exceptional user experience for all-purpose computing. The SANDISK® PC SN5100S NVMe™ SSD integrates the next generation SANDISK® BiCS8 QLC 3D CBA NAND for up to 2,048GB[2] of dependable storage on M.2 2280 or M.2 2230 form factors. The SANDISK® PC SN5100S NVMe™ SSD includes SANDISK® nCache™ 4.0 technology for fast burst writes when storing large files or multitasking between applications. With an endurance rating of up to 600 TBW[4] (2,048GB[2] model), PC workloads run reliably. Optional TCG Opal v2.02 provides data-at-rest encryption for sensitive or protected data to help meet compliance.

ALL-PURPOSE.

PC workloads run quicker with PCIe® Gen 4.0 speeds up to 7,300MB/s[1] (1,024GB – 2,048GB[2] models) and SANDISK® nCache™ 4.0 technology.

PICK YOUR DRIVE.

With capacities from 512GB up to 2,048GB[2] on a slim M.2 2280 or M.2 2230 form factor, choose the SSD that best fits your design, whether for a sleek laptop, handheld, or desktop PC.

INTEGRATE WITH CONFIDENCE.

With the next generation SANDISK® QLC 3D CBA NAND and an endurance rating up to 600 TBW[4] (2,048GB[2] model), confidently design systems for commercial or consumer deployments.

ENCRYPT DATA.

Choose the self-encrypted option to manage this drive with TCG Opal 2.02 security, ensuring sensitive or protected data remains in the right hands and helps meet compliance.

PEACE OF MIND.

Backed by our 5-year limited warranty.[10]

Product Highlights

- PCIe® Gen 4.0, NVMe™ 2.0d
- Sequential read/write speeds up to 7,300/6,700 MB/s[1] (1,024GB - 2,048GB[2] models)
- Random read/write speeds up to 1.2/1.4M IOPS[2] (2,048GB[2] model)
- 512GB, 1,024GB, and 2,048GB[2]
- M.2 2280 and M.2 2230
- SANDISK® BiCS8 QLC 3D CBA NAND
- SANDISK® nCache™ 4.0 Technology
- Up to 600 TBW[4] Endurance (2,048GB[2] model)
- Optional TCG Opal v2.02

Specifications

Capacity[2]	512GB	1,024GB	2,048GB
Product Specifications			
Interface[3]	PCIe® Gen 4.0 x 4, NVMe™ 2.0d		
Form Factor	M.2 2280 S3-M, M.2 2230 S3-M		
NAND Type	SANDISK® BiCS8 QLC 3D CBA NAND		
Performance[1]			
Sequential Read 1MiB (MB/s) up to (Queue Depth=8, Threads=1)	6,600	7,300	7,300
Sequential Write 1MiB (MB/s) up to (Queue Depth=8, Threads=1)	5,600	6,700	6,700
Random Read 4KiB (IOPS) up to (Queue Depth=32, Threads=16)	660K	1,100K	1,200K
Random Write 4KiB (IOPS) up to (Queue Depth=32, Threads=16)	1,300K	1,400K	1,400K
Power[5]			
Peak Power (W)	4.5	5.0	5.5
Average Read (W)	3.5	3.5	3.5
Average Write (W)	3.7	3.7	3.7
Idle (Sleep, D3Hot) (mW)	3	3	3
Reliability			
Endurance (TBW)[4]	150	300	600
MTTF[6] (hours)	1.75 M		
Limited Warranty[10]	5 years		
Security			
Non-SED	TCG Pyrite 2.01 and ATA Security passthrough over NVMe™		
SED (Self-encrypting drive)	TCG Opal 2.02 and ATA Security passthrough over NVMe™		
Regulatory			
RoHS Compliant[7]	Yes		
Certifications	BSMI, CAN ICES-3(B)/NMB-3(B), CB-Scheme, CE, FCC, KCC, Morocco, RCM, TÜV, UL, VCCI, UKCA		
Environmental			
Operating Temperature[8]	32°F to 176°F (0°C to 85°C)		
Non-Operating Temperature[9]	-40°F to 185°F (-40C 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 @ 0.5ms half-sine		
Physical Dimensions[11]			
Length	M.2 2280: 80mm, M.2 2230: 30mm		
Width	22mm		
Height	2.38mm		
Weight	M.2 2280: 5.7g, M.2 2230: 2.6g		

Ordering Information

Form Factor	Security	512GB[2]	1,024GB[2]	2,048GB[2]
M.2 2280	Non-SED	SDFPNSM-512G	SDFPNSM-1T00	SDFPNSM-2T00
M.2 2280	SED	SDFQNSM-512G	SDFQNSM-1T00	SDFQNSM-2T00
M.2 2230	Non-SED	SDFPTSM-512G	SDFPTSM-1T00	SDFPTSM-2T00
M.2 2230	SED	SDFQTSM-512G	SDFQTSM-1T00	SDFQTSM-2T00

1. 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. IOPS = input/output operations per second.
2. 1GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.
3. Backward compatible with PCIe® Gen4 ×2, PCIe® Gen3 ×4, PCIe® Gen3 x2, PCIe® Gen3 ×1, PCIe® Gen2 ×4, PCIe® Gen2 ×2, and PCIe® Gen2 ×1
4. TBW (terabytes written) values calculated using JEDEC client workload (JESD219) and vary by product capacity.
5. Average Read/Write Active Power is measured using IOMeter 1.1.0 during a sequential read and write operation (measured separately) and represents a moving average over a 1 second period. Power may vary depending on test setup, configuration and firmware version. 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.
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. 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.
8. 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.
9. Non-operational storage temperature does not guarantee data retention.
10. 5 years or Max Endurance (TBW) limit, whichever occurs first. See support.Sandisk.com for regional specific warranty details.
11. Physical product dimensions for length and width may vary by ± 0.10mm and product weight may vary by ± 10%.