WD Red® SA500 SSD

PRODUCT BRIEF **NAS SDD**

Highlights

- Storage optimized for caching in NAS systems to rapidly access your most frequently used files.
- Superior endurance can handle the heavy read and write loads demanded by NAS, giving you the reliability you need in a 24/7 environment.
- Reduces latency and improves responsiveness for OLTP databases, multi-user environments, photo rendering, 4K and 8K video editing, and more.
- Available in 2.5" and M.2 form factors to fit the slots in modern NAS systems.
- Capacities from 500GB up to 4TB* (2.5" only) gives you the flexibility to customize your NAS to meet your most demanding storage needs.

Supercharge Your NAS

Boost your NAS system's performance and responsiveness with the WD Red® SA500 NAS SATA SSD. Since your NAS system is always on, a reliable drive is essential. Unlike standard SSDs, WD Red® NAS SATA SSDs are specifically designed and tested for 24/7 usage. This durability together with efficient caching of big files make these drives ideal for OLTP databases, multi-user environments, photo rendering, 4k and 8k video editing and other demanding applications. With 2.5" and M.2 form factors and capacities from 500GB up to 4TB* (2.5" only), the WD Red® SA500 NAS SATA SSD lets you optimize your existing or next NAS system for superior performance and endurance.

Access Big Files Fast

WD Red® SA500 NAS SATA SSD storage is optimized for caching in NAS systems to rapidly access your most frequently used content.

Give It Your Tough Workloads

WD Red® SSD's superior endurance can handle the heavy read and write loads demanded by NAS, giving you the reliability you need in a 24/7 environment.

Work More Efficiently

Purpose-built for NAS with proven Western Digital® 3D NAND, the WD Red® SSD delivers maximum SATA performance to boost your productivity and effectiveness at home or in the office.

Use it for Your Demanding Applications

The drive reduces latency and improves responsiveness for OLTP databases, multi-user environments, photo rendering, 4K and 8K video editing, and more.

Customize Your NAS System

The WD Red® SSD comes in 2.5" and M.2 form factors so you can upgrade your existing NAS system or design a new one from scratch.

Build With Flexibility

Customize your NAS to meet your most demanding storage needs with capacities ranging from 500GB up to 4TB* (2.5" only).

WD Red® SA500 NAS SATA SSD Product Features and Specifications

Form Factor	2.5"/7mm cased, M.2 2280
Interface[1]	SATA III 6 Gb/s
Size and Weight	2.5"/7mm cased: 500GB: 100.2mm x 69.85mm x 7.00mm @ 37.4g 1TB: 100.2mm x 69.85mm x 7.00mm @ 37.4g 2TB: 100.2mm x 69.85mm x 7.00mm @ 34.6g ± 1g 4TB: 100.2mm x 69.85mm x 7.00mm @ 34.6g ± 1g M.2 2280: 500GB: 80.00mm x 22.00mm x 2.38mm @ 7 ± 1g 1TB: 80.00mm x 22.00mm x 2.38mm @ 7 ± 1g 2TB: 80.00mm x 22.00mm x 2.38mm @ 7 ± 1g

Formatted Capacity[2] Form Factor 2.5"/7mm Form Factor M.2 2280	500GB WDS500G1R0A WDS500G1R0B	1TB WDS100T1R0A WDS100T1R0B	2TB WDS200T1R0B	2TB WDS200T2R0A	4TB WDS400T2R0A
Performance[2,3]					
Sequential Read up to (MB/s)	560	560	560	560	560
Sequential Write up to (MB/s)	530	530	530	520	520
Random Read up to (IOPS)	95K	95K	95K	87K	87K
Random Write up to (IOPS)	85K	85K	85K	83K	83K
Endurance (TBW)[4]	350	600	1300	1300	2500
Power[5]					
Average Active Power (mW)	52	60	60	100	100
Max. Read Operating (mW)	2,050	2,550	3,000	3,000	3,000
Max. Write Operating (mW)	3,350	3,750	3,800	3,000	3,000
Slumber (mW)	56	56	56	70	70
DEVSLP (mW)	5–7	5–12	5–12	7	7
Reliability					
MTTF (M hours)[6]	Up to 2M	Up to 2M	Up to 2M	Up to 2M	Up to 2M
Uber	1E10^17	1E10^17	1E10^17	1E10^17	1E10^17

Environmental	
Operating Temperatures[7]	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, RCM, BSMI, VCCI, Morocco, CE, UKCA, CB-Scheme
Limited Warranty[8]	5 years

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

[2] 1GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.

[3] 1MB/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.

[4] TBW (terabytes written) values calculated using JEDEC Client (2.5" and M.2 2280 models in 500GB and 1TB capacities and M.2 2280 model in 2TB capacity) and Enterprise (2.5" model in 2TB capacity, projected value) workload (JESD219) and mixed sequential and random workload (4TB model) and vary by product capacity.

[5] Measured using the MobileMark™ 2012 benchmark with DIPM (Device Initiated Power Management) enabled.

[6] MTTF = Mean Time To Failure based on internal testing using Telcordia™ stress part testing (Telcordia SR-332, GF, 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] The SSD box package is rated up to 60°C.

[8] See http://support.WesternDigital.com for regional specific warranty details.

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