



DATA SHEET—PRELIMINARY SPECIFICATIONS

Fast. Dependable. Versatile.

BarraCuda 510 SSD



The Seagate® BarraCuda® 510 SSD—legendary storage designed for taking your data to the next level of performance, reliability, and efficiency.

Key Advantages



Best-Fit Applications

- Ultra-thin laptops
- Business PCs and laptops
- Workstations and all-in-one PCs

Amazing speed with next-level 3D cTLC NAND and a PCIe Gen3 x4, NVMe 1.3 unlock sequential read/write speeds of up to 3400/2100MB/s

The trusted dependability of the BarraCuda brand with a 5-year limited warranty and MTBF of 1.8M hours.

Amazing versatility with capacities of 256GB and 512GB lets you pick the right drive for the job and budget

Slim form factor with single-sided M.2 2280 for ultra-thin/ultra-small laptops, mini PCs, and desktop PCs

Low power consumption with up to 4.1W active power and multiple low power modes make for longer battery life and cooler running speeds



Specifications	512GB	256GB
Standard Model (TCG Pyrite)	ZP512CM30011	ZP256CM30011
Seagate Secure™ SED Model (TCG Opal)	ZP512CM30031	ZP256CM30031
Interface	PCIe G3 x4, NVMe 1.3	PCIe G3 x4, NVMe 1.3
NAND Flash Memory	3D cTLC	3D cTLC
Form Factor	M.2 2280-S2	M.2 2280-S2
Performance		
Sequential Read (Max, MB/s), 128KB ¹	3400	3050
Sequential Write (Max, MB/s), 128KB ¹	2100	1050
Random Read (Max, IOPS), 4KB QD32 T8 ¹	340,000	180,000
Random Write (Max, IOPS), 4KB QD32 T8 ¹	500,000	255,000
Endurance/Reliability		
Total Bytes Written (TB)	320	160
Mean Time Between Failures (MTBF, hours)	1,800,000	1,800,000
Limited Warranty (years)	5	5
Power Management		
Active Power, Average (W)	4.1	3.0
Idle Power, Average (mW)	20	20
Low Power L1.2 mode (mW)	2	2
Environmental		
Temperature, Operating Internal (°C)	0°C – 70°C	0°C – 70°C
Temperature, Nonoperating (°C)	-40°C – 85°C	-40°C – 85°C
Shock, Nonoperating: 0.5ms (Gs)	1500	1500
Special Features		
TRIM	Yes	Yes
S.M.A.R.T.	Yes	Yes
Halogen Free	Yes	Yes
RoHS Compliance	Yes	Yes
Physical		
Length, Max (mm/in)	80.15mm/3.156in	80.15mm/3.156in
Width, Max (mm/in)	22.15mm/0.872in	22.15mm/0.872in
Height, Max (mm/in)	2.23mm/0.088in	2.23mm/0.088in
Weight, Max (g/lb)	6.9g/0.0152lb	6.5g/0.0143lb
Carton Unit Quantity	20	20
Cartons per Pallet/Cartons per Layer	54/6	54/6

¹ Fresh out of box (FOB) performance obtained on newly formatted drive. Performance may vary based on SSD's firmware version, system hardware, and configuration. Performance based on CrystalDiskMark v.5.2.1 x64 on Windows 10 host.

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