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.

Best-Fit Applications

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

Key Advantages

Amazing speed with next-level 3D TLC NAND and a PCIe® Gen3 ×4, NVMe™ 1.3 unlock sequential read/write speeds of up to 3400/2180MB/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 250GB to 1TB 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 5.3W active power and multiple low power modes make for longer battery life and cooler running speeds

Specifications	1TB	512GB	500GB	256GB	250GB
Standard Model (TCG Pyrite)	ZP1000CM30001	–	ZP500CM30001	–	ZP250CM30001
SED Model (TCG Opal)	–	ZP512CM30031	–	ZP256CM30031	–
Interface	PCIe Gen3 ×4, NVMe 1.3	PCIe Gen3 ×4, NVMe 1.3	PCIe Gen3 ×4, NVMe 1.3	PCIe Gen3 ×4, NVMe 1.3	PCIe Gen3 ×4, NVMe 1.3
NAND Flash Memory	3D TLC	3D TLC	3D TLC	3D TLC	3D TLC
Form Factor	M.2 2280-S2	M.2 2280-S2	M.2 2280-S2	M.2 2280-S2	M.2 2280-S2
Performance					
Sequential Read (Max, MB/s), 128KB[1]	3400	3400	3400	3100	3100
Sequential Write (Max, MB/s), 128KB[1]	3000	2180	2400	1050	1200
Random Read (Max, IOPS), 4KB QD32 T8[1]	600,000	350,000	410,000	180,000	210,000
Random Write (Max, IOPS), 4KB QD32 T8[1]	600,000	530,000	540,000	260,000	280,000
Endurance/Reliability					
Total Bytes Written (TB)	640	320	320	160	160
Mean Time Between Failures (MTBF, hours)	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
Warranty, Limited (years)	5	5	5	5	5
Power Management					
Active Power, Average (W)	5.3	4.2	4.6	3.0	3.0
Idle Power PS3, Average (mW)	20	16	16	16	16
Low Power L1.2 mode (mW)	2	2	2	2	2
Environmental					
Temperature, Operating Internal (°C)	0 to 70	0 to 70	0 to 70	0 to 70	0 to 70
Temperature, Nonoperating (°C)	−40 to 85	−40 to 85	−40 to 85	−40 to 85	−40 to 85
Shock, Nonoperating: 0.5ms (Gs)	1500	1500	1500	1500	1500
Special Features					
TRIM	Yes	Yes	Yes	Yes	Yes
S.M.A.R.T.	Yes	Yes	Yes	Yes	Yes
Halogen Free	Yes	Yes	Yes	Yes	Yes
RoHS Compliance	Yes	Yes	Yes	Yes	Yes
Physical					
Length (mm/in, max)	80.15mm/3.156in	80.15mm/3.156in	80.15mm/3.156in	80.15mm/3.156in	80.15mm/3.156in
Width (mm/in, max)	22.15mm/0.872in	22.15mm/0.872in	22.15mm/0.872in	22.15mm/0.872in	22.15mm/0.872in
Height (mm/in, max)	2.23mm/0.087in	2.23mm/0.087in	2.23mm/0.087in	2.23mm/0.087in	2.23mm/0.087in
Weight (g/lb)	8.7g/0.019lb	6.9g/0.015lb	8.7g/0.019lb	6.5g/0.014lb	8.7g/0.019lb

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 ×64 on Windows 10 host.

Ordering Information

Specifications			
Retail Packaging	**Box Dimensions**	**Master Carton Dimensions**	**Pallet Dimensions**
Depth/Length (in/mm)	5.285in/134.25mm	5.078in/129mm	47.244in/1200mm
Width (in/mm)	4.291in/109mm	10.944in/278mm	39.37in/1000mm
Height (in/mm)	0.944in/24mm	6.653in/169mm	51.968in/1320mm
Weight (lb/kg)	0.134lb/0.061kg	2.006lb/0.91kg	424.389lb/192.5kg

Quantities	
Boxes per Master Carton	10
Master Cartons per Pallet	196
Pallet Layers	7

System Requirements	What's Included

- M.2 (M key) slot, PCIe® G3 ×4 interface
- Windows® 10, Windows 8.1, Windows 7
- Linux

- Seagate® BarraCuda™ 510 SSD

Region	Model Number	Capacity	Limited Warranty (years)	UPC Code	EAN Code	Multi-Pack UPC
WW	ZP250CM3A001	250GB	5	763649138212	8719706019927	10763649138219
WW	ZP256CM30041	256GB	5	763649134009	8719706016612	10763649134006
WW	ZP500CM3A001	500GB	5	763649138229	8719706019934	10763649138226
WW	ZP512CM30041	512GB	5	763649134016	8719706016629	10763649134013
WW	ZP1000CM3A001	1TB	5	763649138236	8719706019941	10763649138233

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