

DATA SHEET

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 x4, 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 x4, NVMe 1.3	PCIe Gen3 x4, NVMe 1.3	PCIe Gen3 x4, NVMe 1.3	PCIe Gen3 x4, NVMe 1.3	PCIe Gen3 x4, 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
<b>Performance</b>					
Sequential Read (Max, MB/s), 128KB <sup>1</sup>	3400	3400	3400	3100	3100
Sequential Write (Max, MB/s), 128KB <sup>1</sup>	3000	2180	2400	1050	1200
Random Read (Max, IOPS), 4KB QD32 T8 <sup>1</sup>	600,000	350,000	410,000	180,000	210,000
Random Write (Max, IOPS), 4KB QD32 T8 <sup>1</sup>	600,000	530,000	540,000	260,000	280,000
<b>Endurance/Reliability</b>					
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
<b>Power Management</b>					
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
<b>Environmental</b>					
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
<b>Special Features</b>					
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
<b>Physical</b>					
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

<sup>1</sup> 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.



Ordering Information	
Specifications	
Retail Packaging	Box Dimensions
Depth/Length (in/mm)	5.285in/134.25mm
Width (in/mm)	4.291in/109mm
Height (in/mm)	0.944in/24mm
Weight (lb/kg)	0.134lb/0.061kg
Master Carton Dimensions	
Depth/Length (in/mm)	5.078in/129mm
Width (in/mm)	10.944in/278mm
Height (in/mm)	6.653in/169mm
Weight (lb/kg)	2.006lb/0.91kg
Pallet Dimensions	
Depth/Length (in/mm)	47.244in/1200mm
Width (in/mm)	39.37in/1000mm
Height (in/mm)	51.968in/1320mm
Weight (lb/kg)	424.389lb/192.5kg
Quantities	
Boxes per Master Carton	10
Master Cartons per Pallet	196
Pallet Layers	7

System Requirements	What's Included
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- M.2 (M key) slot, PCIe® G3 x4 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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