

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 |
|---------------------|-----------------|
|---------------------|-----------------|

- 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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