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The TR200 SATA Series: All-new Retail SSDs from Toshiba

UNDER EMBARGO UNTIL JULY 27, 2017 9AM EST

Introducing the New Retail

From 2017 onwards, retail SSDs will ship under the Toshiba brand name, while OCZ will be a sub-series

All Toshiba retail SSDs will have OCZ performance “DNA” and target the enthusiast and gaming market



TR200 Series



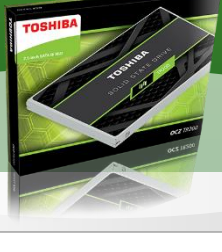
- First Toshiba retail SSD shipping with 64-Layer 3-bit-per-cell TLC (triple-level cell) BiCS FLASH™1
- Will be the only SATA-based retail product released by Toshiba, and is targeted at entry-level DIY system builders and first time upgraders from HDDs
- Focuses on outstanding price/performance for value-oriented consumers
- Designed to offer both lower power and cost savings to customers without expensive and power-consuming DRAM

Toshiba 3D Flash Technology Now Available to Upgraders

- Though Toshiba BiCS FLASH™ has been shipping in OEM products, the TR200 series is the first retail upgrade product to offer Toshiba 3D flash memory
- TR200 provides DIYers and boutique system integrators with state-of-the-art 64-layer TLC flash architecture that delivers enhanced power consumption and performance compared to planar TLC flash memory



TR200 Series: Toshiba-OCZ Retail Product Line Comparison

	ENTHUSIAST	MAINSTREAM	VALUE
	OCZ RD400	OCZ VX500	Toshiba TR200
Interface	PCI Express® ² + NVMe™ ³	SATA 6Gbit/s	SATA 6Gbit/s
Form Factor	M.2 2280 (AIC version available)	2.5-inch	2.5-inch
Flash Components	MLC	MLC	3D TLC
Capacities ⁴	128GB – 1024GB	128GB – 1024GB	240GB – 960GB
Sequential Read ⁵	Up to 2,600 MB/s	Up to 550 MB/s	Up to 550 MB/s
Sequential Write ⁵	Up to 1,600 MB/s	Up to 515 MB/s	Up to 525 MB/s
Random Read ⁶	Up to 210,000 4KiB IOPS	Up to 92,000 KiB IOPS	Up to 80,000 KiB IOPS
Random Write ⁶	Up to 140,000 4KiB IOPS	Up to 65,000 KiB IOPS	Up to 87,000 KiB IOPS
Endurance ⁷	74 ~ 592 TBW	74 ~ 592 TBW	60 ~ 240 TBW
Warranty ⁸	5 Years	5 Years	3 Years
			

SATA SSD Market Comparison: Features

	TR200	Product A	Product B	Product C	Product D
Max Capacity	960GB	4TB	2TB	512GB	480GB
NAND	64-layer 3D BiCS TLC	48-layer 3D TLC	64-layer 3D TLC	64-layer 3D TLC	15nm TLC
Max Performance (480-512GB models)	Up to 550 MB/s read Up to 525 MB/s write	Up to 540 MB/s read Up to 520 MB/s write	Up to 560 MB/s read Up to 530 MB/s write	Up to 550 MB/s read Up to 500 MB/s write	Up to 550 MB/s read Up to 450 MB/s write
DEVSLP (max.)	Up to 10 mW	6 mW	5-12 mW	50 mW	--
Active Power	1.6 W (960GB model)	4.4 W (1TB model)	3.75 W (1TB model)	4.5 W (512GB model)	1.5 W (480GB model)
Encryption	None	AES-256, eDrive	None	AES-256	None
Endurance	240 TBW (960GB model)	150 TBW (1TB model)	400 TBW (1TB model)	144 TBW (512GB model)	160 TBW (480GB model)
MTTF/MTBF ⁹	1.5 Mh	1.5 Mh	1.75 Mh	1.6 Mh	1.0 Mh
Warranty	3 Year ⁸	5 Year	3 Year	5 Year	3 Year

ALL INFORMATION BASED ON PUBLISHED SPECIFICATIONS

Availability

- TR200 will be showcased at ChinaJoy in July and GamesCom in August
- TR200 will be available for review late Q3/early Q4
- TR200 will start shipping to retailers/etailers this Fall
- Pricing is currently not available



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Legal

¹ BiCS FLASH is a trademark of Toshiba Corporation

² PCIe and PCI Express are registered trademarks of PCI-SIG

³ NVM Express is a trademark of NVM Express, Inc.

⁴ Definition of capacity: Toshiba defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2^{30} = 1,073,741,824 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

⁵ Read and write speed may vary depending on the host device, read and write conditions, and file size.

⁶ IOPS: Input Output Per Second (or the number of I/O operations per second)

⁷ Definition and conditions of TBW (Terabytes Written) are based on JEDEC standard; [JESD218A](#), February 2011, and defined for the service life.

DWPD: Drive Write Per Day. One full drive write per day means the drive can be written and re-written to full capacity once a day every day for five years, the stated product warranty period. Actual results may vary due to system configuration, usage and other factors.

⁸ Warranty: Limited Warranty terms <https://www.ocz.com/us/support/standard-warranty>

⁹ MTF (Mean Time to Failure) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTF.

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