TOSHIBA

RC500 Series

NVMe™ Solid State Drive (SSD)

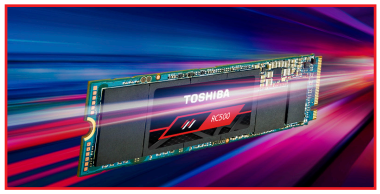
Upgrade SSD for Mainstream Notebooks & PCs

October 2019

BiCS FLASH™

Overview

Upgrading from a hard drive or SATA SSD should be easy and affordable and that's where RC500 SSDs come in. The RC500 NVMe™ SSD Series is built to boost your mobile or PC experience and deliver well-balanced performance, reliability, and value that will transform your system. Leveraging 96-layer 3D flash memory (BiCS FLASH™), this new mainstream-class SSD series offers up to 1TB of capacity and a 3-year warranty in a M.2 2280 form factor suitable for both desktops and notebooks.



Bye Bye Bottleneck

It's time to unleash your system. The RC500 SSD redefines mainstream storage for everyday users that feel held back by SATA-based hardware. Say goodbye to hard disk drive lag and get a computing experience worthy of your time.

NVMe™ Technology

Why keep using an interface that was designed for hard drives? Utilizing the latest NVMe 1.3c technology, the RC500 reduces latency in your system's I/O path between your SSD and your CPU, resulting in smooth and responsive performance.

Small and Compact

Featuring a thin and light M.2 2280 form factor, the RC500 series plugs directly into the motherboard, reducing additional cable clutter for a sleeker system

BiCS FLASH™

State-of-the-Art 3D Flash Memory

Each RC500 SSD is built with KIOXIA's advanced BiCS FLASH™ and a vertically stacked cell structure, delivering a state-of-the-art storage experience.

SSD Utility SSD Management Software

The SSD Utility management software was designed to help your drive thrive and lets you be in control of maintenance, monitoring, SSD tuning and more!

Specifications

Performance	250 GB	500 GB
Sequential Read/Write Speed[1]	Up to 1,700/1200 MB/s	Up to 1700/1600 MB/s
Random Read/Write[2]	Up to 190,000/290,000 IOPS	Up to 290,000/390,000 IOPS

[1] Sequential speeds are measured with CrystalDiskMark 6.0.2 x64, Q=32, T=1

[2] 4KiB random performance is measured with CrystalDiskMark 6.0.2 x64, Q=8,T=8

Endurance	250 GB	500 GB
TBW (Total Bytes Written)[3]	100 TB	200 TB
Daily Usage Guideline[4]	91 GB/day	183 GB/day

Physical

Capacites	250 GB, 500 GB
NAND Flash Memory Type	96 Layer 3D BiCS FLASH™ TLC
Interface	PCI Express® Base Specification Revision 3.1a (PCIe®) **Maximum Speed** 32 GT/s (PCIe® Gen3x4L) **Command** NVM Express™ Revision 1.3c command set
Form Factor	M.2 Type 2280-S2-M
Dimension (L x W x H)	80.00 ± 0.15 mm x 22.00 ± 0.15 mm x 2.38 mm Max
Drive Weight	250GB: 6.0 g (typ.) 500GB: 6.9 g (typ.)

Power Requirements

Supply Voltage	3.3 V ±5 %
Power Consumption (Active)	250GB: 3.8 W (typ.) 500GB: 3.9 W (typ.)
Power Consumption (L1.2 Power)	50 mW (typ.)

Environmental

Operating Temperature (Tc)	0°C (Tc) to 85°C (Tc)
Storage Temperature	-40°C to 85°C
Shock Resistance	9.806 km/s^2 {1,000 G} 0.5 ms half sine wave
Vibration	196 m/s^2 {20 G} Peak, 10~2000 Hz, (20 min / Axis) x 3 Axis

Reliability / Security

MTTF	1.5 Mhours
Product Health Monitoring	SSD Utility version 3.4 and above

Compatibility

PCI Express	Compatible with PCI Express® Base Specification Revision 3.1a and NVM Express™ Revision 1.3c command set
Operating System[3]	Windows® 10 x64
Connector Type	M.2 M key Socket
Targeted Applications	Client desktops and laptops

[3] Compatible operating system for SSD is not the same as compatible operating system for SSD Utility

Additional Features

Performance Optimization	TRIM, Idle Time Garbage Collection
Services and Support	3-Year Standard Warranty Program, Online Tech Support
Software	SSD management software: SSD Utility v3.4 and above.

Ordering Information	Model	Part Number	UPC
RC500	250 GB	THN-RC50Z2500C8(CS	811375030086
RC500	500 GB	THN-RC50Z5000C8(CS	811375030093

NVMe is a trademark of NVM Express, Inc.

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

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Definition of capacity: KIOXIA 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.

A kibibyte (KiB) means 2^{10}, or 1,024 bytes, a mebibyte (MiB) means 2^{20}, or 1,048,576 bytes, and a gibibyte (GiB) means 2^{30}, or 1,073,741,824 bytes.

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

MTTF (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 MTTF.

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

Subject to Change: While KIOXIA has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice.

Product image may represent design model.