

# Roalsen5 Series

## DapuStor Enterprise NVMe SSD



The DapuStor R5 Series is designed and built on DapuStor DP600 controller firmware with 96L 3D enterprise TLC NAND from KIOXIA. Such a unique combination creates industry-leading SSDs with high speed, superior reliability, low latency, and excellent power efficiency, bringing optimised TCO to enterprise IT and cloud facilities. DapuStor R5 series is an ideal solution for core data storage scenarios in different fields, such as enterprise IT, logistics, Internet, finance, intelligent manufacturing, and AI.

### Industry Mainstream NAND Flash

DapuStor R5 Series is equipped with 96L 3D NAND Flash from KIOXIA, realising an extremely high-power efficiency. It reduces NAND Retry at the system level through innovative machine learning technologies that predict the NAND workload in complex scenarios to prevent systemic failures.

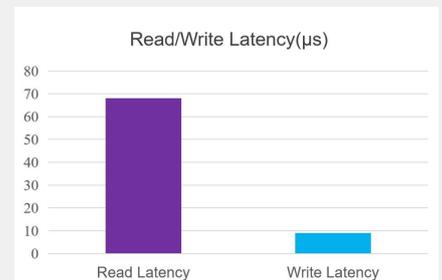


KIOXIA's BiCS FLASH is a three-dimensional(3D) vertical flash memory cell structure. This structure enables it to surpass the capacity of mainstream 2D (planar) flash memory. KIOXIA's TLC 3-bit-per-cell 512Gb(64GB) BiCS FLASH, an industry first, enhances the reliability of write/erase endurance while boosting write speeds.

 <b>High storage density per die</b>		 <b>Low cost per bit</b>	 <b>Less intercell interface</b>
 <b>High reliability</b>		 <b>Improved power efficiency</b>	 <b>High performance</b>

### Superior Performance

DapuStor R5 series PCIe Gen4 SSD offers a 100% improvement in bandwidth and IOPS performance compared with the Haishen3 series. In terms of latency, thanks to the new DP600 controller having carried out many optimisations on the IO path, the Roalsen5 series has significantly improved latency and QoS under mixed read-write scenarios.



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### Advanced Features

- Flash Raid 2.0 tolerating multiple flash die failures without affecting service and performance
- Latest NVMe 1.4a key features
- Advanced power loss protection that protects user data against power failure in various scenarios.
- Nine levels of adjustable power consumption: more convenient operation, maintenance, and better TCO.

### Computing And Storage Converged Platform

The DapuStor DP600 controller for PCIe 4.0 SSD has a built-in APPLICATION processor and the DPU-Link heterogeneous computing interface. It delivers faster speed when running Linux, conveniently transplants applications and algorithms, and improves system efficiency for database, AI, and big data applications.

### Feature

PCN (Product Code Name)	R5102
Capacity	3.84 TB
Form Factor	U.2 15mm
Interface	PCIe 4.0 x4, NVMe 1.4a
Read Bandwidth (128KB) MB/s	7400
Write Bandwidth (128KB) MB/s	5500
Random Read (4KB) KIOPS	1750
Random Write (4KB) KIOPS	280
4K Random Latency (Typ.) R/W $\mu$ s	68/9
4K Sequential Latency (Typ.) R/W $\mu$ s	8/9
Power	Typical: $\leq$ 19.5 W, Idle: $\leq$ 6.5 W
Flash Type	KIOXIA 3D NAND 96 layer Enterprise TLC
Endurance	1 DWPD
MTBF	2 million hours
UBER	1 sector per $10^{17}$ bits read
Warranty	5yrs

\*Differences in hardware, software, or configuration will affect actual test results.



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