

PCIe 4.0

Roelsen5 Series[®] Dual Port

DapuStor Enterprise NVMe SSD



The DapuStor R5 Series is designed and built on DapuStor DP600 controller firmware with 3D eTLC NAND Flash. 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. The 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.

Advanced Features

- Support dual port
- 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

Superior Performance

The 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 Roelsen5 Series has significantly improved latency and QoS under mixed read-write scenarios.

7400/6400 MB/s

Sequential Read/Write(MB/s)

1750K/640K

Random Read/Write(IOPS)

65/9 μs

Read/Write Latency(μs)

Industry Mainstream NAND Flash

The DapuStor R5 Series is equipped with 3D eTLC NAND Flash, 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.

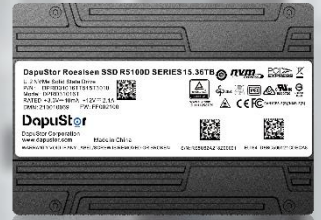
KIOXIA's BiCS FLASH is a three-dimensional(3D) vertical flash memory cell structure. This structure enables it to surpass the capacity of mainstream 2D (planar) flash memory. KIOXIA's TLC 3-bit-per-cell 512Gb(64GB) BiCS FLASH, an industry first, enhances the reliability of write/erase endurance while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



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

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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.

Product Specifications

PCN (Product Code Name)	R5100D						R5300D					
	Capacity(TB)		Form Factor		Interface		Capacity(TB)		Form Factor		Interface	
Capacity(TB)	3.84		7.68		15.36		3.2		6.4		12.8	
Form Factor	U.2 15mm											
Interface	PCIe 4.0 2x2, NVMe 1.4a, Dual Port											
	Port 0	Port 1	Port 0	Port 1	Port 0	Port 1	Port 0	Port 1	Port 0	Port 1	Port 0	Port 1
Read Bandwidth (128KB) MB/s	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
Write Bandwidth (128KB) MB/s	1500	1500	2850	2850	3200	3200	1500	1500	2850	2850	3200	3200
Random Read (4KB)K IOPS	875	875	875	875	875	875	875	875	875	875	875	875
Random Write (4KB) K IOPS	85	85	140	140	160	160	170	170	275	275	320	320
4K Random Latency (Typ.) R/W μ s	65/9											
4K Sequential Latency (Typ.) R/W μ s	8/9											
Power	Typical: \leq 22 W, Idle: \leq 6.5 W											
Flash Type	3D eTLC NAND Flash, 2 plane											
Endurance	1 DWPD						3 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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