

The Future of Enterprise and Data Center Storage is EDSFF is here

NVMe SSD Solutions for SMC Solutions

Benefits of EDSFF SSDs



Flexibility

EDSFF connector design is compliant to the same connector standard specification across all EDSFF configurations, and it can be used without limitation on the number of lanes and is flexible to chassis and backplane designs.



Powerful

EDSFF is design to support higher power up to 70W*, delivering superior performance, while 2.5-inch SSDs using the SFF-8639 connector typically max out at 25W.

*The design value of maximum power depends on the device.



Higher Performance

EDSFF can support up to 4x higher performance in a 4C configuration with 16 lanes and 2x higher performance in a 2C configuration with 8 lanes than a 4 lane 2.5-inch SSD (U.2 or U.3). *

*The number of lanes depends on the device. As of October 2023, KIOXIA does not support SSDs beyond PCIe® x4 lanes.



Efficient

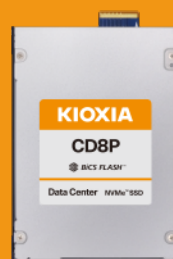
The EDSFF is designed with efficient use of space and surface area, improving thermal dissipation and allowing for higher density chassis.



Versatile

EDSFF is designed to support other PCIe® devices, such as NICs or accelerators, that can be used in the same chassis not limited to SSDs.

KIOXIA EDSFF E3.S Offerings



KIOXIA CM7 Series Enterprise NVMe™ SSD

- PCIe® Gen5 x4 (32 GT/s x4)
- NVMe™ 2.0 specification compliant
- OCP Datacenter NVMe™ SSD 2.0 supported
- 1.6 TB to 15.36 TB capacities
- 1 and 3 DWPD endurance

KIOXIA CD8P Series Data Center NVMe™ SSD

- PCIe® Gen5 x4 (32 GT/s x4)
- NVMe™ 2.0 specification compliant
- OCP Datacenter NVMe™ SSD 2.0 supported
- 1.6 TB to 15.36 TB capacities
- 1 and 3 DWPD endurance

KIOXIA EDSFF E1.S Offerings

KIOXIA XD7P Series Data Center NVMe™ SSD

- PCIe® Gen4 x4 (16 GT/s x4)
- NVMe™ 2.0 specification compliant
- OCP Datacenter NVMe™ SSD 2.0 supported
- 1.92 TB, 3.84 TB and 7.68 TB capacities
- 1 DWPD endurance



9.5 mm



15 mm

Specifications

Family	Endurance	Capacity	SED Model Number	FIPS SED Model Number	Sustained 128 KiB Sequential Read	Sustained 128 KiB Sequential Write	Sustained 4 KiB Random Read	Sustained 4 KiB Random Write
CM7 E3.S	Read-Intensive 1 DWPD	1,920	KCM7DRJE1T92	KCM7FRE1T92	14,000 MB/s	3,500 MB/s	2,000K IOPS	155K IOPS
		3,840	KCM7DRJE3T84	KCM7FRE3T84	14,000 MB/s	6,750 MB/s	2,700K IOPS	310K IOPS
		7,680	KCM7DRJE7T68	KCM7FRE7T68	14,000 MB/s	6,750 MB/s	2,450K IOPS	300K IOPS
		15,360	KCM7DRJE15T3	KCM7FRE15T3	13,000 MB/s	5,300 MB/s	2,000K IOPS	260K IOPS
	Mixed-Use 3 DWPD	1,600	KCM7DVJE1T60	KCM7FVJE1T60	14,000 MB/s	3,500 MB/s	2,000K IOPS	310K IOPS
		3,200	KCM7DVJE3T20	KCM7FVJE3T20	14,000 MB/s	6,750 MB/s	2,700K IOPS	600K IOPS
		6,400	KCM7DVJE6T40	KCM7FVJE6T40	14,000 MB/s	6,750 MB/s	2,450K IOPS	550K IOPS
		12,800	KCM7DVJE12T8	KCM7FVJE12T8	13,000 MB/s	5,300 MB/s	2,000K IOPS	470K IOPS

Family	Endurance	Capacity	SED Model Number	Sustained 128 KiB Sequential Read	Sustained 128 KiB Sequential Write	Sustained 4 KiB Random Read	Sustained 4 KiB Random Write
CD8P E3.S	Read-Intensive 1 DWPD	1,920	KCD8DPJE15T3	12,000 MB/s	3,500 MB/s	1,600K IOPS	150K IOPS
		3,840	KCD8DPJE7T68	12,000 MB/s	5,500 MB/s	1,900K IOPS	200K IOPS
		7,680	KCD8DPJE3T84	12,000 MB/s	5,500 MB/s	2,000K IOPS	200K IOPS
		15,360	KCD8DPJE1T92	12,000 MB/s	5,300 MB/s	2,000K IOPS	200K IOPS

Family	Endurance	Capacity	SED Model Number	Sustained 128 KiB Sequential Read	Sustained 128 KiB Sequential Write	Sustained 4 KiB Random Read	Sustained 4 KiB Random Write
XD7P E1.S	Read-Intensive 1 DWPD	1,920	KXDZDRJ1T92	7,200 MB/s	3,100 MB/s	1,500K IOPS	95K IOPS
		3,840	KXDZDRJ3T84	7,200 MB/s	4,800 MB/s	1,650K IOPS	180K IOPS
		7,680	KXDZDRJ7T68	7,200 MB/s	4,800 MB/s	1,550K IOPS	200K IOPS
		1,920	KXDZDRJ91T92	7,200 MB/s	3,100 MB/s	1,550K IOPS	95K IOPS
		3,840	KXDZDRJ93T84	7,200 MB/s	4,800 MB/s	1,650K IOPS	180K IOPS
		7,680	KXDZDRJ97T68	7,200 MB/s	4,800 MB/s	1,550K IOPS	200K IOPS



Where to Find More on EDSFF?

KIOXIA EDSFF Solutions <https://americas.kioxia.com/en-us/business/ssd/solution/edsff.html>

Open Compute Project Datacenter NVMe SSD specification <https://www.opencompute.org/wiki/Storage#Documents>

SNIA SSD Form Factors Web Page <https://www.snia.org/forums/cmsi/knowledge/formfactors>

E1.S & E1.L
 SNIA SFF-TA-1002 – Protocol Agnostic Multi-lane High Speed Connector
 SNIA SFF-TA-1006 – Enterprise and Datacenter 1U Short Device Form Factor (E1.S)
 SNIA SFF-TA-1007 – Enterprise and Datacenter 1U Long Device Form Factor (E1.L)
 SNIA SFF-TA-1009 – Enterprise and Datacenter Standard Form Factor Pin and Signal Specification
 SNIA REF-TA-1012 – Pin Assignment Reference for SFF-TA-1002 Connectors
 SNIA SFF-TA-1023 – Thermal Characterization Specification for EDSFF Devices

E3.S & E3.L
 SNIA SFF-TA-1002 – Protocol Agnostic Multi-Lane High Speed Connector
 SNIA SFF-TA-1008 – Enterprise and Datacenter Device Form Factor (E3)
 SNIA SFF-TA-1009 – Enterprise and Datacenter Standard Form Factor Pin and Signal Specification
 SNIA REF-TA-1012 – Pin Assignment Reference for SFF-TA-1002 Connectors
 SNIA SFF-TA-1023 – Thermal Characterization Specification for EDSFF Devices