

MARVELL® 88SS1098 SSD Controller

PCIe Gen3x4, 8-Channel NAND Controller with NVMe and SATA interfaces supporting up to 8TB capacity

PRODUCT OVERVIEW

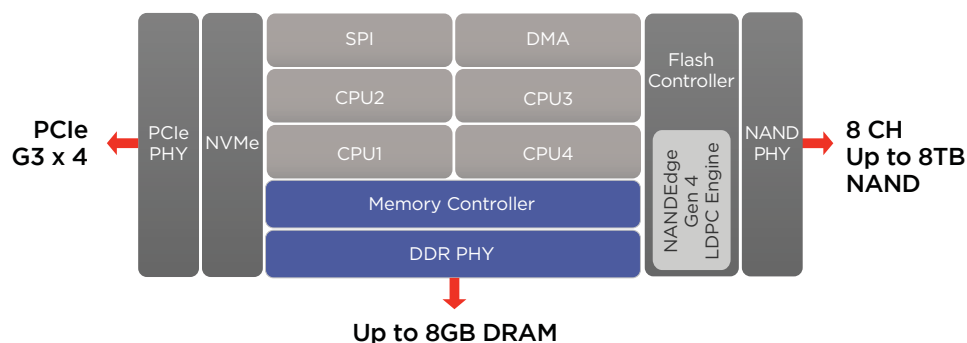
The Marvell® 88SS1098 enables high-performance and high-capacity SSDs for use in enterprise and data center environments. Leveraging a quad-core Arm® Cortex®-R5 architecture with support for up to 8GB DRAM, these controllers can enable high-performance SSDs to meet the demands of the most challenging workloads.

For enterprise use cases, 88SS1098 can also support PCIe Gen3x4 dual port (active/active) to enable high availability systems.

88SS1098 leverages the newest Marvell Gen4 NANDEdge™ LDPC engine for extracting the highest performance from MLC and TLC memories while providing the most P/E cycles.

88SS1098 also supports TCG standards including an AES engine and OTP storage for secure drive configuration.

BLOCK DIAGRAM



Marvell 88SS1098 SSD Controller

KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
Processor	<ul style="list-style-type: none"> • Quad Cortex®-R5 CPUs • Dynamic Branch Prediction • DMA controller
PCIe Interface	<ul style="list-style-type: none"> • PCIe Gen3x4 (with dual port support)
DDR Controller	<ul style="list-style-type: none"> • Up to 8GB DDR3, DDR4, LPDDR3, LPDDR4 at speeds up to 2400MT/s with ECC support
Flash Controller	<ul style="list-style-type: none"> • 8 Channels @ 800MT/s • ONFI 2.2/2.3/3.0/4.0, JEDEC mode and Toggle 1.0/2.0 • Hardware RAID • Marvell NANDEdge™ Gen4 LDPC engine
NVMe	<ul style="list-style-type: none"> • NVMe Standard Revision 1.3 compliance • 256 outstanding I/O commands • 132 total queue pairs • 64 Virtual Functions • MSI and MSI-X interrupt mechanisms • T-10 DIF and end-to-end protection
TCG	<ul style="list-style-type: none"> • OTP support for secure drive configuration • AES encryption hardware • Media re-encryption hardware
Package	<ul style="list-style-type: none"> • Available in standard 17mm x 17mm (625 ball) BGA package

TARGET APPLICATIONS

- Enterprise and data center SSDs

