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
### KEY FEATURES AND BENEFITS

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<th>FEATURES</th>
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| Processor     | • Quad Cortex®-R5 CPUs  
• Dynamic Branch Prediction  
• DMA controller                                   |
| PCIe Interface| • PCIe Gen3x4 (with dual port support)                                    |
| DDR Controller| • Up to 8GB DDR3, DDR4, LPDDR3, LPDDR4 at speeds up to 2400MT/s with ECC support |
| Flash Controller| • 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          | • 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           | • OTP support for secure drive configuration  
• AES encryption hardware  
• Media re-encryption hardware |
| Package       | • Available in standard 17mm x 17mm (625 ball) BGA package               |

### TARGET APPLICATIONS
- Enterprise and data center SSDs