

Highlights

- Supports Intel® VMD Enclosure Management for PCIe/NVMe SSDs through dual VPP SMBus for CPU0 & CPU1 from Intel®
- Supports Linux® Enclosure Management for PCIe/NVMe SSDs through dual SHP SMBus for CPU0 & CPU1 from AMD®
- Enclosure management of PCIe/NVMe SSDs connected to Broadcom®/Microsemi® PCIe switches is also supported in MG9098
- Support two channels of SGPIO for enclosure management of SATA/SAS drives
- Supports IPBI specification (SFF-8489)
- Supports Optional Enclosure Management of NVMe/SATA/SAS drives through BMC SMBus
- Hot-plug support with Host Hot-Plug SMBus (VPP)
- Power Disable support for SAS drives
- Supply range 3.3V +/- 5%
- Small QFN-64 Package with 9 mm x 9 mm pin outline
- Internal Oscillator, no external crystal needed
- Ships ready to use, no firmware or programming required
- Firmware upgradable through SMBus from host BMC
- Diagnostics and FW upgrade tools available for Windows®, Linux®, EFI and DOS

AMI MG9098 Backplane Controller For NVMe/SATA/SAS Backplanes



The AMI MG9098 backplane controller enables the world's leading enterprise system builders and data center solution providers to design low-cost, robust backplane solutions for NVMe, SAS and SATA-based storage subsystems.

A true single-chip solution, the AMI MG9098 backplane controller helps optimize backplane layouts with the latest enclosure management technologies. This highly integrated and space-optimized chip is available in compact QFN-64 package (9mm x 9mm) and supports all the features needed in a modern state-of-the-art

SAS/SATA/NVMe backplane. MG9098 backplane controller also ships ready to use, with no firmware or programming required at power-on. Firmware is upgradable through SMBus from host BMC.

BENEFITS

Developed to reduce latency and provide faster CPU to data storage device performance, NVMe (Non-Volatile Memory Express) is a scalable, high performance specification for accessing solid state drives (SSDs) attached directly to the PCI Express bus. The MG9098 backplane controller leverages the power signals on NVMe/SATA/SAS drive connector (SFF-8639) to detect drive presence, type, and activity.

LED management of NVMe SSDs is done through SMBus Host Hot-Plug VPP or SHP Bus. For SATA/SAS drives, this is done through the SGPIO (SFF-8485) specification. Optionally, LED management can also be done with proprietary BMC SMBus commands

The MG9098 backplane controller also provides Power Disable/Device Sleep outputs for SATA/SAS & NVMe drives.

The MG9098 backplane controller supports 2-LED and 3-LED IBPI blinking patterns, along with many pre-defined custom LED blinking patterns. Custom blinking patterns can also be downloaded through the BMC SMBUS.

MG9098 PROGRAM VERSIONS

Different program versions of MG9098 controller are available to support various features required in a modern state-of-the-art backplane for Single ported NVMe & SAS/SATA drives.

Major differences between MG9098 versions are listed in the table below:

Differences	MG9098 Program Version	
	A	B
SGPIO (SFF-8485) support	Yes	Yes
Platforms supported	Intel®	Intel®/Broadcom® /AMD® /Microsemi®
SHP Interrupt	None	1

Supports Activity and Status LEDs for each drive

- Both 2-LED and 3-LED blinking supported for up to eight drives
- Drives two or three LEDs per slot for up to eight slots through LED Matrix
- Separate LEDs for Activity, Locate & Fail drives states
- Combination of Locate and Fail LEDs blink for additional drive states
- Preloaded and downloadable custom LED blinking patterns supported
- Global Act and Global Fail LEDs supported
- Support for up to 32 drives with four MG9098 controllers



©2020 AMI. All rights reserved. Product specifications are subject to change without notice. Products mentioned herein may be trademarks or registered trademarks of their respective companies. No warranties are made, either expressed or implied, with regard to the contents of this work, its merchantability or fitness for a particular use. This publication contains proprietary information and is protected by copyright. AMI reserves the right to update, change and/or modify this product at any time.

5555 Oakbrook Parkway
Building 200
Norcross, GA 30093 USA
Tel: 770.246.8600
Sales/Toll Free : 800.828.9264
ami.com