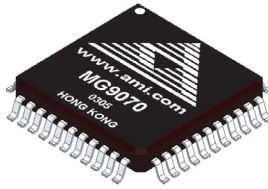


MegaRAC® MG9070

SAS/SATA Enclosure Management Controller



AMI's MG9070 enclosure management controller can be utilized with both SATA and SAS backplanes for applications from entry-level to mission-critical, while providing a cost effective solution that does not require an expander. The chip implements Enclosure Management Protocol for supporting Promise SATA HBA as well as SGPIO per SFF 8485 specification, managing LEDs for up to four drives.

AMI, who gained high reputation in the storage industry with RAID's, works with all the major HBA vendors to ensure compatibility.

Data Sheet

4 30 2008

HIGHLIGHTS

- > Supports up to 4 SAS/SATA drives
- > Drive Activity, Rebuild & Fail LEDs
- > Supports Ready LED Signal from Drive
- > Manages drive presence
- > Global activity & Global Fail indication
- > SGPIO protocol support to interface to SAS/SATA HBA
- > Enclosure Management Protocol support for Promise HBA
- > Number of supported drives can easily be increased by a factor of 4 by adding similar chips in case of SGPIO interface
- > Support for maximum of 8 drives in case of Promise protocol
- > Two SMBus ports and one SGPIO port

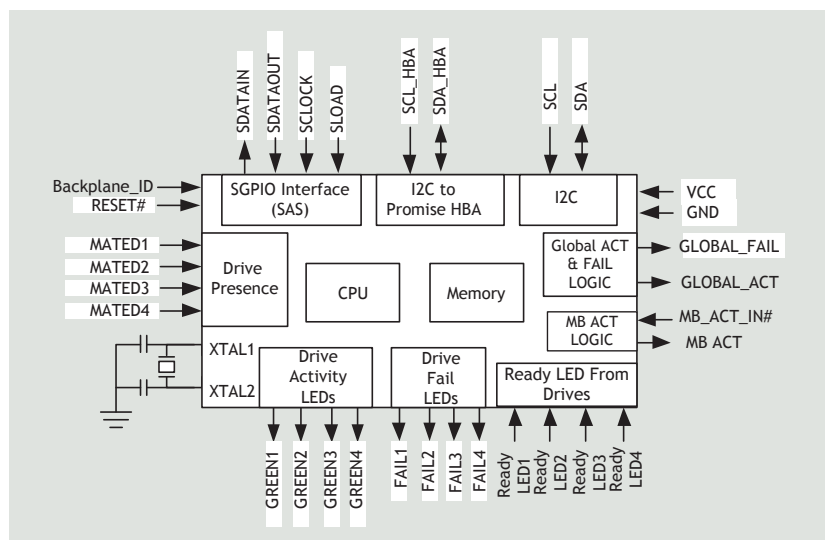
MegaRAC MG9070 chip manages hot-swap SAS/SATA-II backplanes with enclosure management, ideal for cost-sensitive and performance-oriented system designs. The device is compatible with adapters supporting Enclosure Management Protocol for Promise SATA HBA or SAS adapters with SGPIO interface. Each MG9070 has one SGPIO port that can communicate enclosure management information to the SAS host bus adapter, support LED management and detect drive presence for up to four drives.

Serial Attached SCSI (SAS) and Serial ATA are the latest storage interconnect standards, introducing higher speeds, more robust data integrity, smaller designs and wider standardization. The SAS interface is compatible with lower-cost-

per-gigabyte SATA drives, giving system builders the flexibility to integrate either SAS or SATA devices while slashing the costs associated with supporting two separate interfaces. As the next generation of SCSI, SAS bridges the parallel technology gap in performance, scalability and affordability.

The SAS interface is designed to be compatible with the Serial ATA (SATA) interface at physical layer level. This allows SAS or SATA drives to be plugged into a SAS backplane, which reduces design and inventory costs for backplane manufacturers.

A backplane required to support only four drives can have just one MG9070. By adding more devices, the backplane can manage 8, 16 drives or more.



MegaRAC® MG9070

SAS/SATA Enclosure Management Controller

Features

Supported Enclosure Management Protocol

SGPIO

One SGPIO port communicates enclosure management information, LED management and drive presence for up to 4 drives

Promise Protocol

Supports Promise Protocol for SATA HBA over I2C

Drive Support

Each chip supports 4 drives
Support for up to 8 drives by cascading two MG9070

Managed Elements

- Drive Presence
- Drive Activity
- Drive Fail
- Drive Locate
- Global Activity
- Global Fail
- Ready LED Support

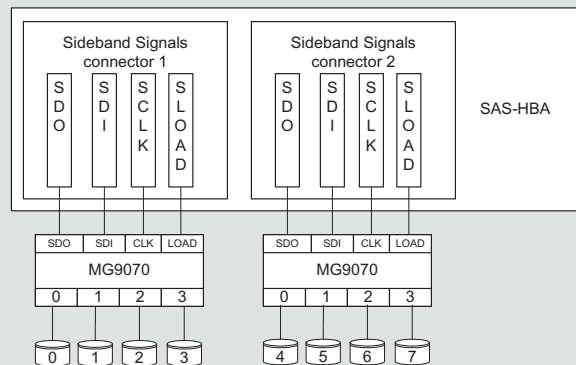
Absolute Maximum Ratings

- Operating Temperatures -55oC to +125oC
- Storage Temperature -65oC to +150oC
- Voltage on any pin except RESET# with respect to ground -1.0V to VCC+0.5V
- Voltage on RESET# with respect to ground -1.0 to +13.0V
- Maximum operating Voltage 6.00V
- DC Current per I/O Pin 40.0mA
- DC Current VCC and Ground Pin 200.0mA

VERSATILE: MG 9070 CAN BE USED IN A VARIETY OF DESIGNS

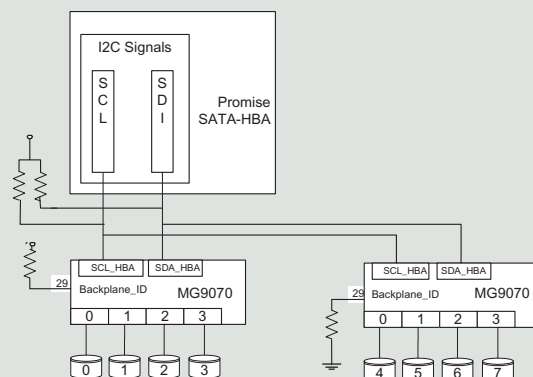
HBA /SGPIO INTERFACE

Each device has one SGPIO port that can communicate enclosure management information to HBAs with SGPIO interface, supporting LED management and drive presence for up to 4 drives. By adding more MG9070 devices, the backplane can be realized for 8, 12, 16 drives or more.



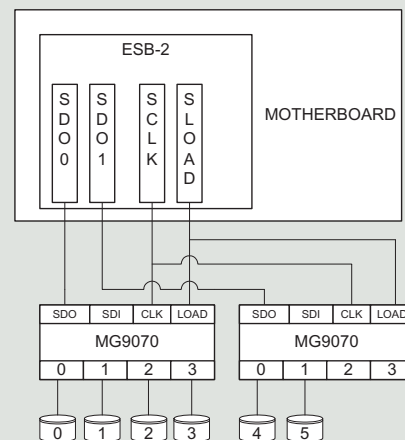
PROMISE SATA HBA

MG9070 is designed to work with any Promise SATA HBA over I2C. By adding more MG9070 devices, the backplane can be realized for 8, 12, 16 drives or more.



ESB2

The block diagram shows the use of MG9070 with an ESB2 southbridge. By adding more MG9070 devices, the backplane can be realized for 8, 12, 16 drives or more.



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