

FEATURES

- True single-chip solution
- Supports up to 6 SAS/SATA drives
- Two MG9085 chips can be cascaded to support up to 8 drives.
- Provides drive Activity, Fail/Rebuild and Locate LEDs
- Multiplexed SGPIO with Drive Ready LED signal, to show activity in non-RAID environments
- Small LQFP-32 Package (9mm X 9mm)
- Internal Temperature Sensor
- SES-2 support over SMBus
- Supports SGPIO Specification SFF-8485
- Supports IBPI Specification SFF-8489
- Directly drives 2 LEDs for up to 6 slots
- Directly drives 3 LEDs for up to 4 slots
- Global Activity & Global Fail LED
- Internal Oscillator (no external crystal needed)
- USB 2.0 compliant support for Status, Monitoring, Diagnostic, and FW update
- Firmware Upgradeable or Configurable through USB
- Diagnostics and FW tools available for Win32, Win64, Linux, EFI and DOS
- Part ships ready to

MegaRAC MG9085

MegaRAC® MG9085 SAS/SATA Enclosure Management Controller

The MegaRAC® MG9085 is a low-cost and ultra-small SoC solution for use on SAS and SATA Backplanes with up to six drives per backplane. Compatible with SAS/SATA Host Bus Adapters from all major storage vendors, the MG9085 supports a single Serial GPIO port for connection to the HBA, as well as SES-2 via SMBUS.

True Single Chip Solution

The MG9085 provides highly integrated functionality that reduces the overall costs of your backplane design. This space-saving solution doesn't need a plethora of components that drive backplane costs upward, such as: external crystal, flash memory, Power-On Reset (POR) chip, temperature sensor, regulator, EEPROM, LED Driver, FRU, and transceivers. Furthermore, the MG9085 has a very small footprint: measuring only 9x9 millimeters, it saves valuable real estate on your backplane. MegaRAC® MG9085 provides SGPIO connectivity to the Host Bus Adapter or SES-2 via SMBUS.

Multiple Configurations

The MG9085 can directly drive 2 LEDs for up to 6 slots or 3 LEDs for up to 4 slots; it determines the number of drives by sensing the connections on the Mx-bus. Several configurations are possible:

6 drives, SGPIO connection to HBA, 2 LEDs driven directly

6 drives, SES-2 connection to HBA, 2 LEDs driven directly
4 drives, SGPIO connection to HBA, 3 LEDs driven directly

4 drives, SES-2 connection to HBA, 3 LEDs driven directly

AMI can provide reference designs in PDF or ORCAD schematic format.

Environmentally Compliant

The MG9085 is compliant with RoHS and WEEE environmental requirements and lead-free.

Support Tools

The MG9085 comes with a complete set of hardware and software tools for firmware upgrade via USB. The USB90TOOL also provides backplane controller monitoring and alerting independent of the system BMC, a useful feature for power users.

Feature Details

Key Features

- True single-chip solution
- Supports up to 6 SAS/SATA drives
- Drive Activity, Fail/Rebuild and Locate LEDs
- Drive Ready LED signal
- Built in Regulator for 5V operation. (Supply range 5.5V-2.7V)
- Small LQFP-32 Package (9mm X 9mm)
- Internal Temperature Sensor
- Internal Oscillator
- SES-2 support over SMBus
- Supports SGPIO Specification SFF-8485
- Supports IBPI Specification SFF-8489
- Directly drives 2 LEDs for up to 6 slots
- Directly drives 3 LEDs for up to 4 slots
- Global Activity & Global Fail LED
- USB 2.0 compliant support for Status, Monitoring, Diagnostic, and FW update
- Firmware Upgradeable or Configurable through USB
- Diagnostics and FW tools available for Win32, Win64, Linux, EFI and DOS
- Part ships ready to use, no firmware or programming required

Enclosure Management Protocols

- SFF-8485 Specification for Serial GPIO (SGPIO) Bus Revision 0.7
- SFF-8489 Specification for Serial GPIO IBPI (International Blinking Pattern Interpretation) Rev 0.1

SGPIO

One SGPIO port communicate enclosure management information, LED management and drive presence

SES-2

SES 2.0 utilizes a set of SCSI commands to manage and sense the state of the drive slot, LED indicators, power, cooling and other.
The MG9085 supports SES-2 through SMBUS.

Supporting Tools

- Hardware Tools
 - Series 950 USB upgrade tool with 4-pin header to in-circuit upgrade
 - FlashMG Windows-based utility for 950 Tool
- Software Tools
 - MGUSBTOOL: Windows® application for firmware upgrade & BP controller status monitoring through USB

Reference Designs

Contact AMI to receive a reference design in PDF or OrCad schematic format. Please provide your schematic for verification before finalizing your layout

For more information please visit the request form at ami.com/ami-backplane-controllers



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