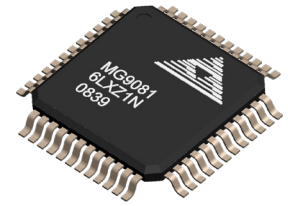


AMI MG9081 Backplane Controller

For SAS/SATA backplanes



The MG9081 is a low-cost, ultra-small, single-chip solution for use on SAS and SATA Backplanes for up to 8 drives per backplane. The chip features USB support and IPMI access to the BMC through IPMB SMBus. LED management utilizes the SGPIO protocol or SES-2. Cascaded controllers can support up to 32 drives.

A true single-chip solution, the AMI MG9081 helps optimize backplane layouts with the latest enclosure management technologies. This highly integrated and space-optimized chip features an internal oscillator, is available in TQFP-48 Package (9mm x 9mm) and omit the usual components that drive backplane costs up such as external crystal, flash memory, regulator, EEPROM LED Driver, and FRU. It also ships ready to use with no firmware or programming required.

BENEFITS

MG9081 controller can manage LED patterns for up to 8 SAS/SATA drives providing drive activity, fail, rebuild and locate LED indication signals. For LED management, it supports SGPIO (SFF-8485) and IBPI (SFF-8489) or SES-2 over SMBus. These features make the controller suitable for a wide variety of systems handling multiple drives from 2 to 32. Currently, 30 different off-the-shelf configurations are available from AMI.

MG9081 leverages the use of power signals on the SAS/SATA drive connector to detect its presence and activity. LED management uses SGPIO (SFF-8485) and SES-2 over SMBus from RAID Controllers, PCH and SAS Expanders.

Through IPMB SMBus interface, MG9081 can send IPMI events to notify BMC of any change in critical drive states. BMC can access and update the firmware of MG9081 using IPMI commands.

USB 2.0 compliant support in MG9081 can be used by the host system to monitor status of the drives, run diagnostics and firmware update.

LED BLINKING PATTERN

In 3-LED mode, MG9081 follows the blinking pattern as defined in the following table for various drive states:

Drive State:	3-LEDs/SLOT		
	Activity (Green) LED	Locate (Amber) LED	Fail (Red) LED
Drive Not Present	OFF	X	X
Drive Present, No Activity	ON	X	X
Drive Present, Activity	4Hz	X	X
Locate (Identify)	X	4Hz	OFF
Fail	OFF	OFF	ON
Rebuild	X	OFF	1Hz
Predicted Fail	X	OFF	2 Fast Blinks at 4Hz & Pause for 0.5 Sec

HIGHLIGHTS:

- Support Enclosure Management for SAS/SATA Drives
- Support Enclosure Management through 2 channels of SGPIO (SFF-8485)
- Enclosure Management also supported through SES-2 over SMBUS
- Supports IBPI specification SFF-8489
- Supports Present & Status LEDs for each drive
 - Directly drives 2 LEDs for up to 8 slots
 - Directly drives 3 LEDs for up to 6 slots
 - With latches, drives 3 LEDs for up to 8 slots
 - Global Activity & Global Fail LED supported
 - Cascaded controllers can support up to 32 drives.
- When enabled, IPMI events sent to BMC to notify of any change in critical drive states
- USB 2.0 compliant support for Status, Monitoring, Diagnostic, and FW Update
- Built in Regulator for 5V operation
 - Supply range 3.6V-5.25V
- Small TQFP-48 Package
 - 9mm X 9 mm pin outline
 - 7mm X 7 mm housing
- IPMI/IPMB support to host BMC
- Internal Oscillator
 - No external crystal needed
- Part ships ready to use, no firmware or programming required
- Firmware Upgradeable through IPMB SMBus from host BMC using IPMI protocol
- Diagnostics and FW upgrade tools available for Windows, Linux, EFI and DOS



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For more information: <http://ami.com/products/backplanes-and-enclosure-management>