AMI MG9077 Enclosure Management Controller

with Dual SGPIO and SMBus

The AMI MG9077 is a low-cost, ultra-small, single-chip solution for enclosure management of SAS/SATA backplanes for up to 8 drives per backplane. Cascaded controllers can support up to 32 drives.

A true single-chip solution, the AMI MG9077 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, EEPROM and LED Driver.

BENEFITS

By utilizing the most advanced technologies in the SGPIO field enclosure management protocol for SAS and SATA HBAs, as well and SMBus for BMC access, the MG9077 provides activity, fail, rebuild and locate signals for up to 8 drives. Multiple chips can be cascaded to support up to 32 drives to managing a total of 64 LEDs. A wide variety of reference designs are already available from AMI for simple integration into existing and future projects.

LED BLINKING PATTERN

In 2-LED mode, MG9077 follows the blinking pattern as defined in the following table for various drive states:

Drive State:	2-LED Blinking Pattern	
	Status (Green) LED	Status (Red) LED
Drive Not Present	OFF	X
Drive Present, No Activity	OFF	X
Drive Present, Activity	4Hz	X
Locate (Identify)	X	4Hz
Fail	X	ON
Rebuild	X	1Hz
In A Critical Array	X	X
In A Failed Array	X	X

HIGHLIGHTS:

- Support Enclosure Management for SAS/SATA Drives
- Support Enclosure Management through 2 channels of SGPIO (SFF-8485)
- Supports Present & Status LEDs for each drive
  - Directly drives 2 LEDs for up to 8 slots
  - With latches, MG9077 can drive 3 LEDs for up to 8 drives
  - Global Activity LED supported
  - Cascaded controllers can support up to 32 drives.
- Supply range (2.7V - 3.6V)
- Small TQFP-48 Package
  - 9mm X 9 mm pin outline
  - 7mm X 7 mm housing
- Internal Oscillator
  - No external crystal needed
- Part ships ready to use, no firmware or programming required
- Firmware Upgradeable through SMBus from host BMC
- Diagnostics and FW upgrade tools available for Windows, Linux, EFI and DOS
- Lead Free, RoHS Compliant and Green Packaging

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