

PM8307 SPS 3GT

SATA/SAS Active/Active MUX with Native Command Queuing

Released
Product Brief

PRODUCT OVERVIEW

- SATA/SAS active/active mux with NCQ.
- Low latency switching between two simultaneously active host ports and the SATA target port.
- Supports NCQ command streams and non-queued (ATA, ATAPI-7) command streams simultaneously and transparently from both hosts.
- SAS serial retimer.
- 6 General Purpose I/O (GPIO) pins available for uses including activity LEDs and HDD control.
- Diagnostics for fault isolation.
- Integrated crystal oscillator.
- Single 1.8 V power supply.

SYSTEM LEVEL FEATURES

- System level HDD power control when working with a SAS expander. Read/Write to registers using in-band Register FIS or host.
- System level fault isolation when working with an SAS expander or host. Diagnostic information communicated to system via in-band Register FIS.
- SPS 3GT provides multiple loopback modes including HDD metallic loopback.

HIGH SPEED I/O

- 1.5 Gbit/s and 3.0 Gbit/s SAS/SATA compliant operation.
- Automatic negotiation of link speed.
- Programmable transmit pre-emphasis (five levels) and receiver equalization (three levels).
- Programmable transmit output swing to support SAS and SATA Gen1i, Gen1x, Gen2i, Gen 2x (1600mV) swing levels.
- Spread Spectrum Clocking (SSC) tolerant.
- Integrated resistive termination and receive AC coupling.
- Hot-plug capable.

DIAGNOSTICS

- Extensive control of loopbacks and diagnostics collection using in-band Register FIS.
- CJTPAT data generator per link.
- Extensive per-channel built-in counters including:
 - CRC errors
 - Invalid DWORDs, Loss of DWORD synchronization
 - 8B/10B disparity errors and code violations
 - PHY Resets
- Protocol timers for host/device protocol lockup issues.

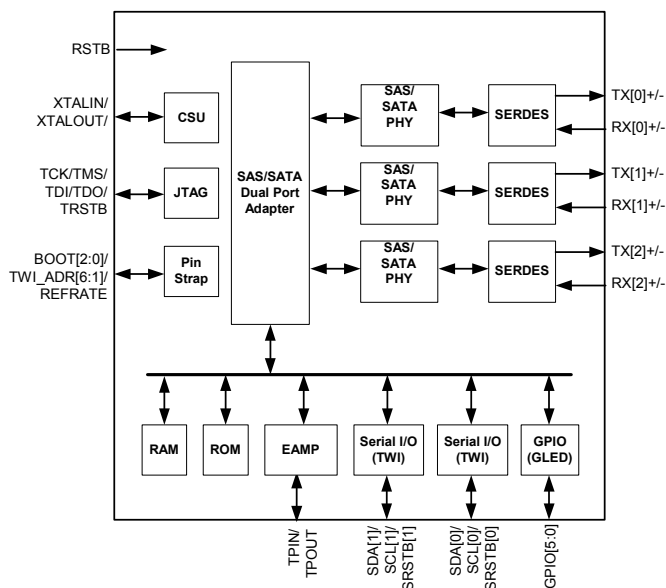
PHYSICAL

- 1.8 V power supply.
- 80-pin Exposed Pad TQFP package.
- 10 mm x 10 mm.

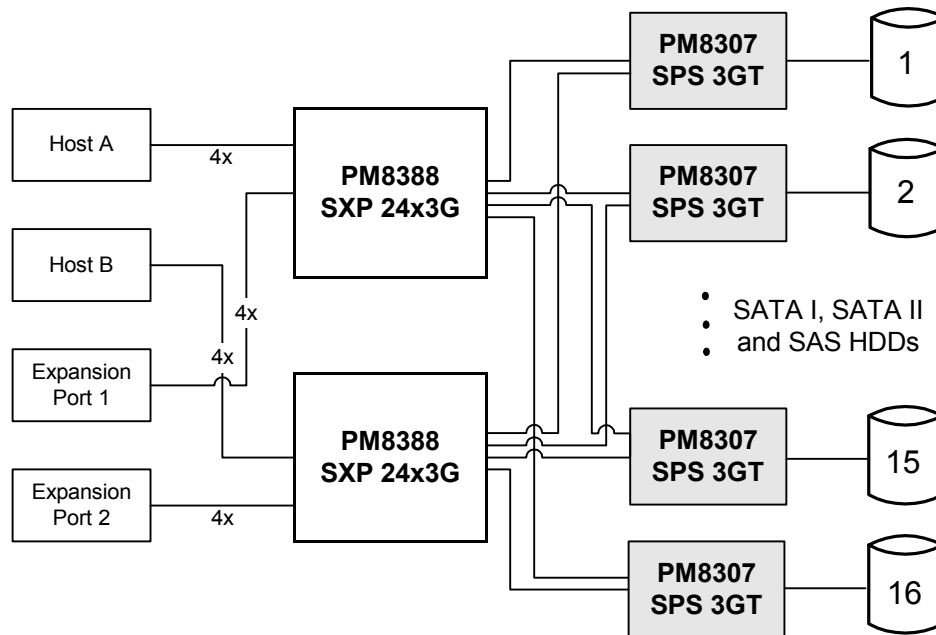
APPLICATIONS

- SATA HDD Dual-Port Adaptor Card.
- SATA HDD Drive Sleds for Enterprise Storage Arrays.
- SAS Retiming.

BLOCK DIAGRAM



SATA/SAS STORAGE SYSTEM



SATA HDD DUAL-PORT ADAPTOR

