



PM8056 ☆

SXP 68x12G SAS Expander

Status: In Production

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Features:

- SAS-3 T10 zoning for secure storage
- Ultra low switching latency for improved system performance
- SAS and SATA edge-buffering preserves customers' investment by improving performance with existing 3G and 6G drives
- Table-to-table routing removes need for keyed connectors
- Integrated Ethernet port for seamless interface to management entity
- Integrated MIPS processor for enclosure management

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Device Overview

Summary

The SXP 12G 68-port SAS Expander features SAS-3 T10 zoning, self-configuration, table-to-table routing, Ethernet port, and an integrated MIPS processor for SES and enclosure management support. All SXP expanders also feature a rich and robust customizable SDK for enclosure management and system level diagnostics and monitoring that offers our customers a clean migration path for their code between product generations.

Additional Features

- SAS-3 T10 zoning for secure storage
- Ultra low switching latency for improved system performance
- SAS and SATA edge-buffering preserves customers' investment by improving performance with existing 3G and 6G drives
- Table-to-table routing removes need for keyed connectors
- Integrated Ethernet port for seamless interface to management entity
- Integrated MIPS processor for enclosure management
- Firmware compatible with Microchip SAS 3 Gbps and 6 Gbps SAS expanders and stand-alone enclosure management controllers
- 12G SAS signaling support for up to 10m mini-SAS HD passive copper cable
- Optical SAS support
- Early power off warning (EPOW) support
- SAS and SATA edge-buffering support
- Ultra-low switching latency to improve system performance
- Quad SPI or parallel flash support; optional inline ECC on the parallel flash
- T10 zoning support (up to 256 zones)
- Port mirroring for system debug
- Local bus data integrity protection
- Real-time eye capture with enhanced BER eye mask and estimation
- Non-disruptive zero down time firmware update support
- Position-independent firmware image support to simplify firmware image management/download
- Compatible enclosure management firmware architecture with SXP 3G/6G products
- Real-time clock (1 μ S counter up to 35+ years)
- Enhanced processing subsystem (MIPS 34Kc at 600 MHz)
- Backward-compatibility with Microchip's 6G/3G SXP devices

High-Speed I/O

- SAS-3 (12 Gbps, 6 Gbps, 3 Gbps, 1.5 Gbps) and SATA-3 (6 Gbps, 3 Gbps, 1.5 Gbps) operation
- Support for up to 4K SAS addresses
- Automated decision feedback equalizer (DFE) per SAS-3
- Programmable continuous time linear equalizer for SATA-3
- Supports spread-spectrum clocking (SSC) per SAS/SATA-3
- Per-PHY configurable transmit and receive SSC
- Per-PHY programmable transmit amplitude and emphasis
- Integrated resistive termination
- SAS 3.0-compliant back-channel training (SAS3 speed negotiation)

Peripheral Interfaces

- 4 UART interfaces for system monitoring and debugging
- 4 SGPIO interfaces (or additional TWI per SFF-8448)
- Up to 81 GPIO pins
- Eight dedicated two-wire interfaces (up to twelve total) for device configuration and control of external interfaces
- 16-bit local bus interface for connecting to NOR flash and SRAM
- SPI, DSPI, and QSPI interface
- 10/100 Ethernet MAC port
- JTAG and EJTAG interface

Statistics and Performance Monitoring

- Per-port error counters for comprehensive diagnostic capability
- Programmable PMON counters and interrupt generation
- Per-link PRBS and CJPAT pattern generators and loop-backs for link integrity diagnostics
- Real-time clock

Firmware Development Kit

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Parametrics


Name	Value
Product Type	SAS Expander
Port Count	68
Generation	12 Gbps
Physical Dimensions	31 mm x 31 mm



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 Overview








 Documents

 Development Environment

 RoHS Information

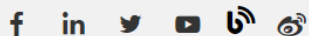
 Add to Cart

RoHS Information

Part Number	Device Weight (g)	Shipping Weight (Kg)	Lead Count	Package Type	Package Dimension	Solder Composition	JEDEC Indicator	RoHS	China EFUP
PM8056B-FGI	0.000000	12.29629	1408	HBFBGA	31x31mm	SAC305	e1		
PM8056B-FEI	7.423400	12.81481	1408	BFBGA	31x31x2.83mm	SAC305	e1		
PM8056B-FEI-SW2	7.423400	12.81481	1408	BFBGA	31x31x2.83mm	SAC305	e1		
PM8057B-FEI	7.423400	12.81481	1408	BFBGA	31x31x2.83mm	SAC305	e1		

To see a complete listing of RoHS data for this device, please [Click here](#)

Shipping Weight = Device Weight + Packing Material weight. Please [contact sales](#) office if device weight is not available.



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