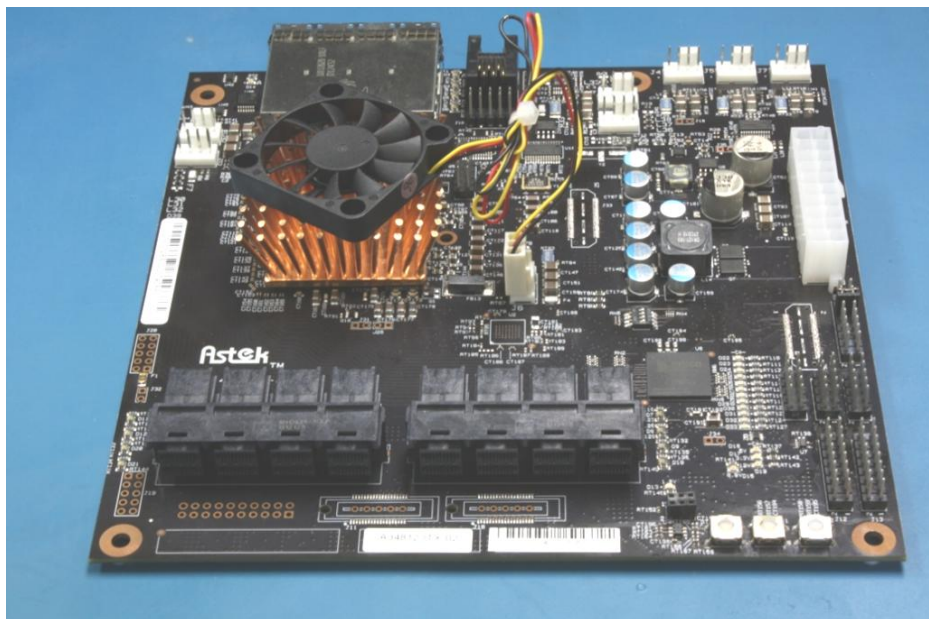# A34812-ITX
48-lane 12Gb/s Expander Board

KEY APPLICATIONS

- Lab and test systems
- Storage enclosures

PRODUCT FEATURES

- 12Gbps per port, 48 lanes
- Supports multi-lane aggregation for wide-port configurations up to 48Gbps
- Can be cascaded to allow a single initiator to control hundreds of target disks
- Supports connection to multiple initiators allowing Storage-Area-Networking and system redundancy
- Supports SCSI Enclosure Services (SES-2).
    - On-board and external thermal monitoring
    - 6 connections for fan control and monitoring
    - GPIO Header for additional inputs and outputs
- SFF-8485 compliant SGPIO connections on internal mini-SAS HD connectors SFF-8643
- Supports active cable on external mini-SAS HD connectors SFF-8644
- Connects to both SAS and SATA hard disk drives
- T-10 and Phy-based zoning
- 1 year limited warranty

High-performance SAS expander that fits your enclosure

The A34812-ITX is a 48-lanes 12Gb/s SAS/SATA expander in a mini-ITX form factor. This complete subsystem incorporates everything system vendors need to add next-generation storage support for JBOD and RBOD systems that need to support SAS and SATA target disks. Each SAS lane can connect to a disk, a host bus adapter (HBA) or cascade to another expander device. When configured for cascaded connections, the A34812-ITX allows a single SAS RAID or HBA card to drive hundreds of target disks. For additional performance, lanes can be aggregated into a 'wide' ports connecting an host to the A34812-ITX, and cascaded to additional expanders. The A34812-ITX includes a number of enclosure management features that allow system vendors to monitor temperatures, sensors and VPD information as well as control PWM fans for optimal noise management.

Support for SATA devices

The A34812-ITX maintains support for direct connection of low-cost 3Gbps and 6Gbps Serial ATA (SATA) target disks and SSD. The expander chipset transparently bridges SATA to SAS and allows system designers to use either high-reliability enterprise class SAS disks, or select lower cost SATA devices to maximize storage density.

A34812-ITX Ordering Information

A34812-ITX-02	x48 lanes of 12Gb/s SAS

Technical Specifications

Host Bus Type	n/a	
Compliance	ANSI T10 SAS specification 3.0	
Modes	Standalone fabric switch, Storage Enclosures	
Supply Voltage	12V +/- 10%	
Supply Power	30 Watts	
SAS Bus	Forty-eight 12Gb/s SAS/SATA ports	
SAS Bandwidths	3.0Gb/s (SAS1.0/SATA-II) Single lane - 300 MB/s Wide Port (4 lanes) - 1200 MB/s Wide Port (8 lanes) - 2400 MB/s 6.0Gb/s (SAS-2.0/SATA-III) Single lane - 600 MB/s Wide Port (4 lanes) - 2400 MB/s Wide Port (8 lanes) - 4800 MB/s 12.0Gb/s (SAS-3.0) Single lane - 1200 MB/s Wide Port (4 lanes) - 4800 MB/s Wide Port (8 lanes) - 9600 MB/s	
Connectors **A34812-ITX-02**	**External** 16 lanes routed through four SFF-8644 miniSAS HD connectors.	**Internal** 32 lanes routed through eight SFF-8643 miniSAS HD connectors.
Form Factor	Mini-ITX, 170mm x 170mm	
Protocols	SAS-3, SAS-2, SES-2, SAS, SATA II, SATA III	
Device Support	Effectively unlimited (limited by HBA controller)	
Agency Approval	RoHS Compliant (lead-free)	
Environments **Temperature** **Relative Humidity**	**Operating** 0° to 55° C 5 to 90% non-condensing	**Storage** -40° to +85° C 5 to 90% non-condensing

* Agency approval pending

About Astek Corporation

Astek manufactures storage products for embedded markets including medical, telecommunications and military applications. In addition to Host Bus Adapters, Astek also supplies Serial Attached SCSI solutions including edge and fan-out expanders.

For more information please visit the Astek web site at:

www.astekcorp.com

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