OXUFS936QSE

Universal Interface to Quad SATA RAID Controller with Encryption

Description

The OXUFS936QSE is a universal interface (eSATA, FireWire800, FireWire400, USB2.0) to quad SATA storage controller. Delivering industry leading performance across all interfaces, the OXUFS936QSE supports a range of 4-disk and 3-disk RAID configurations and provides a platform for OEMs to develop offers advanced encryption and decryption capabilities in hardware with support for multiple authentication methods including software password and biometric (fingerprint) sensor authentication for a range of external storage systems.

The intgrated high-performance hardware RAID engine supports a range of RAID modes which can deliver maximum performance (RAID 0) or the optimal combination of performance and data protection via RAID 5, 3 or 10.

With integrated eSATA device port, IEEE1394b link, USB2.0 device and quad SATA host controllers the OXUFS936QSE requires a mimum number of external components and reduces total system cost.

Features

- High performance Universal Interface (FireWire800, FireWire400, USB2.0 or eSATA) to SATA storage controller
- Integrated hardware RAID controller supporting:
  - Disk striping with distributed parity (RAID 5)
  - Disk striping with dedicated parity (RAID 3)
  - Disk striping (RAID0) for maximum performance
  - Disk striping with mirroring (RAID 10)
  - Disk spanning for large capacity single volume
  - Support for hot spare disk
- Supports SATA II Gen2m specification and 3.0Gbps and 1.5Gbps interfaces
- Hardware RAID rebuild engine (up to HDD transfer rate)
- Sustained transfer rates in excess of 240Mbytes/s (limited only by HDD or interface transfer rates)
- Integrated hardware 128-bit AES encryption/decryption engine - supports multiple authentication methods
- Integrated PWMs and Fan-Tachometer control
- Flexible RAID User Agent (LED & LCD support)
- USB mass-storage class compliant
- 48 GPIO (24 dedicated, 24 multiplexed)

HI-SPEED CERTIFIED USB

OXFORD SEMICONDUCTOR

Embedded ARM Processor

By managing the data flow, the on-chip ARM7 processor enables a whole new series of standalone consumer electronic product to be developed in a simple C/C++ programming environment.

USB2.0

The embedded USB2.0 PHY supports both full and high speed, using bulk-only transport Mass Storage Class device protocol. Fast read and write transfers ensure that the maximum possible host performance is maintained.

No additional USB host drivers are required, for either Windows® or Mac® operating systems, for standard storage, button notification or GPIO control applications.

FireWire

The embedded 1394 PHY and link layer supports both FireWire800 and FireWire400 and complies with the 1394-1995 and 1394-2000 specifications.

No additional 1394 host drivers are required, for either Windows® or Mac® operating systems for standard storage applications.

SATA Interface

The embedded 3GHz SATA host interfaces supports the latest revisions of the SATA II specifications. In addition the eSATA device port also supports the Gen2m interface. Interface speeds of 3GHz and 1.5GHz deliver maximum performance with minimum latency for external SATA storage.

RAID

The chip supports several RAID functions, including:

- Striping (RAID 0) delivers the highest performance but provides no data integrity or redundancy.
- Striping with Parity (RAID 5 or 3) provides the perfect balance between very high performance and data integrity.
- Mirrored Stripe (RAID 10) provides 100% data redundancy plus offers increased performance by striping across 2 disks.
- Spanning (concatenation) presents all drives as a single large volume.

Development Tools

For external Mac and PC storage solutions, Oxford Semiconductor offers a comprehensive support package including:

- Reference designs comprising both hardware and software components
- Evaluation boards
- Software Development Kit (SDK) comprising source code and debug boards
- Extensive range of application notes

OXUFS936QSE Block Diagram

Ordering Information

Device	Evaluation Kit
OXUFS936DSE	EK-OXUFS936QE

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June 2008, REV. 1.1