

OXU931DS, Hi-Speed USB 2.0 to SATA/eSATA Controller

Highlights

■ General Features

- High performance dual SATA storage controller

■ Key Features

- High performance dual SATA storage controller
- Integrated SATA cores and PHYs
 - Port can be configured for eSATA device operation
 - Supports SATA II Gen2m specification and 3.0Gbps and 1.5Gbps interfaces
- Integrated 480Mbps USB2.0 high speed core and PHY
- Integrated hardware RAID controller supporting (over USB):
 - Disk striping (RAID0) for maximum performance
 - Disk mirroring (RAID 1) for maximum data protection
 - Disk spanning for large capacity single volume
- External flash interface
- I2C interface for optional EEPROM
- USB and USB mass-storage compliant
- Support for USB Human Interface Device (HID)
- 12 GPIOs allow easy product customization

The OXU931DS is a single chip solution for bridging between USB 2.0 or eSATA and hard disks.

Optimized for performance and offering increased functionality on the external SATA-to-SATA path, the OXU931DS supports a range of RAID and storage applications targeted at users requiring maximum performance, reliability and ease of use.

The OXU931DS can be configured for USB to dual SATA or eSATA to SATA operation. When configured in dual SATA mode, the integrated hardware RAID controller supports disk striping (RAID0) for maximum performance or disk mirroring (RAID1) for maximum data protection. For higher speed connections, one of the SATA ports can be configured as a device port enabling USB and eSATA combo applications.

The OXU931DS shares a common software base with other devices in Oxford's range of USB and FireWire storage controllers. In addition, Oxford offers a comprehensive support package that includes evaluation boards, reference designs, and a software development kit.

Embedded ARM Processor

By managing the data flow through the OXU931DS, 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. Its 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.

SATA Interface

The SATA dual port host with embedded PHY and controller supports the latest revisions of the SATA II specifications, including the Gen2m interface for eSATA devices. Interface speeds of 3GHz and 1.5GHz deliver maximum performance with minimum latency for external SATA storage.



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RAID

The chip supports several RAID functions over USB.

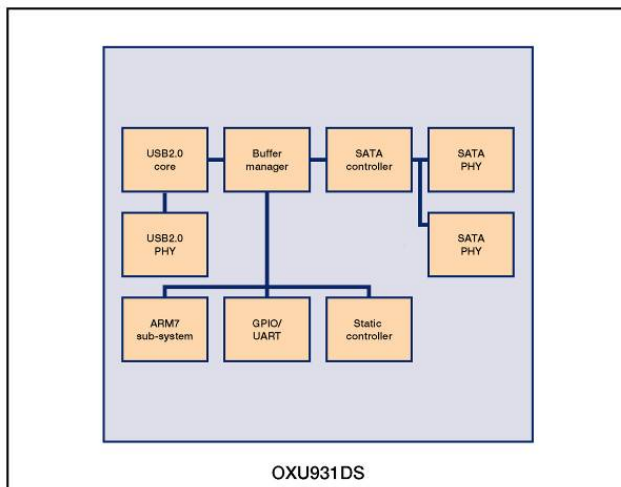
- Striping (RAID 0) allows two disks to appear as a single ultra fast disk by sharing the load between the two disks
- Mirroring (RAID 1) each disk is an exact copy of the other, providing the highest level of data integrity with 100% data redundancy.
- Spanning (concatenation) allows two drives to appear as one large drive to the host machine.

Development Support

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 with pre-built application firmware
- Software Development Kit (SDK) comprising source code and debug boards
- Extensive range of application notes to shorten learning curves and simplify implementation

OXU931DS Block Diagram



Product Ordering Information

Part Number	Description
OXU931DS-LQAG	Hi-Speed USB 2.0 to SATA/eSATA controller

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