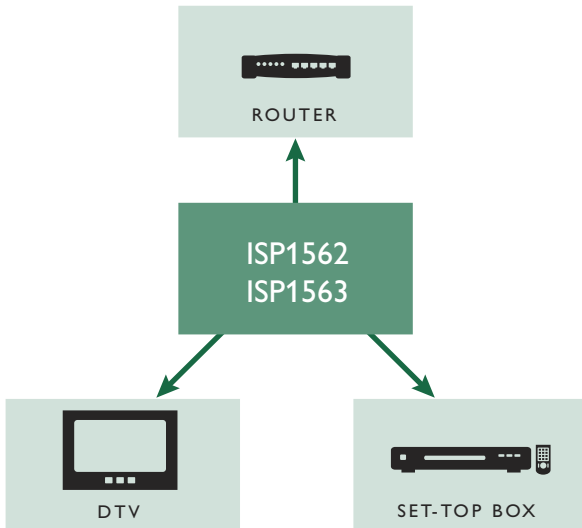


ISP1562, ISP1563

These Hi-Speed USB host controllers are designed for use with the PCI bus. Offering low-power operation, variable data rates, and two or four downstream ports, they are ideally suited for use in digital consumer appliances, web appliances, and portable PCs.



Key features

- Single-chip, PCI-based, OHCI- and EHCI-compliant Hi-Speed USB host controller
 - One Hi-Speed USB EHCI core
 - Two USB OHCI cores
 - Four transceivers that support multiple data rates
 - ISP1562: two downstream ports, ISP1563: four downstream ports
- Fully complies with
 - USB Specification Rev. 2.0
 - OHCI Specification Rev 1.0a
 - EHCI for USB Specification Rev. 1.0
 - PCI Local Bus Specification Rev. 2.2
 - PCI Bus Power Management Interface Specification Rev. 1.1
- High Speed (480 Mbps), Full Speed (12 Mbps), and Low Speed (1.5 Mbps) data transfer rates
- ISP1563: supports two types of downstream port indicator LEDs (amber, green)
- Compatible with leading OS drivers (Windows XP, Windows 2000, Red Hat Linux, etc.)
- ISP1562: LQFP100 (14 x 14 mm²), ISP1563: LQFP128 (14 x 14 mm²)

Applications

- Set-top box (STB)
- Web appliances (e.g., routers)
- Digital consumer appliances (e.g., Digital TV)
- Laptop and notebook PCs

Low-power Hi-Speed USB PCI host controllers with two or four downstream ports



Designed for use with a 32-bit, 33-MHz PCI bus, the ISP1562 and the ISP1563 are Hi-Speed USB host controllers integrating two USB OHCI cores, one Hi-Speed USB EHCI core, and four transceivers that support multiple data rates.

Both controllers are fully compliant with *Universal Serial Bus (USB) Specification Rev. 2.0*, *Open Host Controller Interface (OHCI) Specification Rev. 1.0a*, *Enhanced Host Controller Interface (EHCI) Specification for USB Rev. 1.0*, *PCI Local Bus Specification Rev. 2.2*, and *PCI Bus Power Management Interface Specification Rev. 1.1*.

Both controllers support all three USB transfer speed modes: High Speed (480 Mbps), Full Speed (12 Mbps), and Low Speed (1.5 Mbps).

The ISP1562 has two downstream ports capable of simultaneous, multi-speed connections with USB peripherals, and is housed in a 100-pin LQFP package.

The ISP1563 has four downstream ports, also capable of simultaneous, multi-speed peripheral connections. To simplify port status indication, the ISP1563 supports two types of downstream port indicator LEDs (green and amber). The indicators can display messages from the Root Hub, without detailed port information being reflected in the internal registers. The ISP1563 can be configured as a two- or four-port root hub and supports legacy PS/2 keyboards and mice. It is housed in a 128-pin LQFP package.

In PCI-based systems, the ISP1562 and the ISP1563 support D3cold standby and wake-up modes, plus all the power states (D0, D1, D2, D3hot, and D3cold). All the I/O ports are 3.3V. For V_{AUX} and V_{CC} , a 3.3V dual power supply operates off a 3.3 supply input. A 1.8V internal regulator allows lower power consumption.

For better EMI and ESD protection, the digital and analog power supplies are kept separate. A 12-MHz crystal oscillator reduces EMI further and lowers overall system cost.

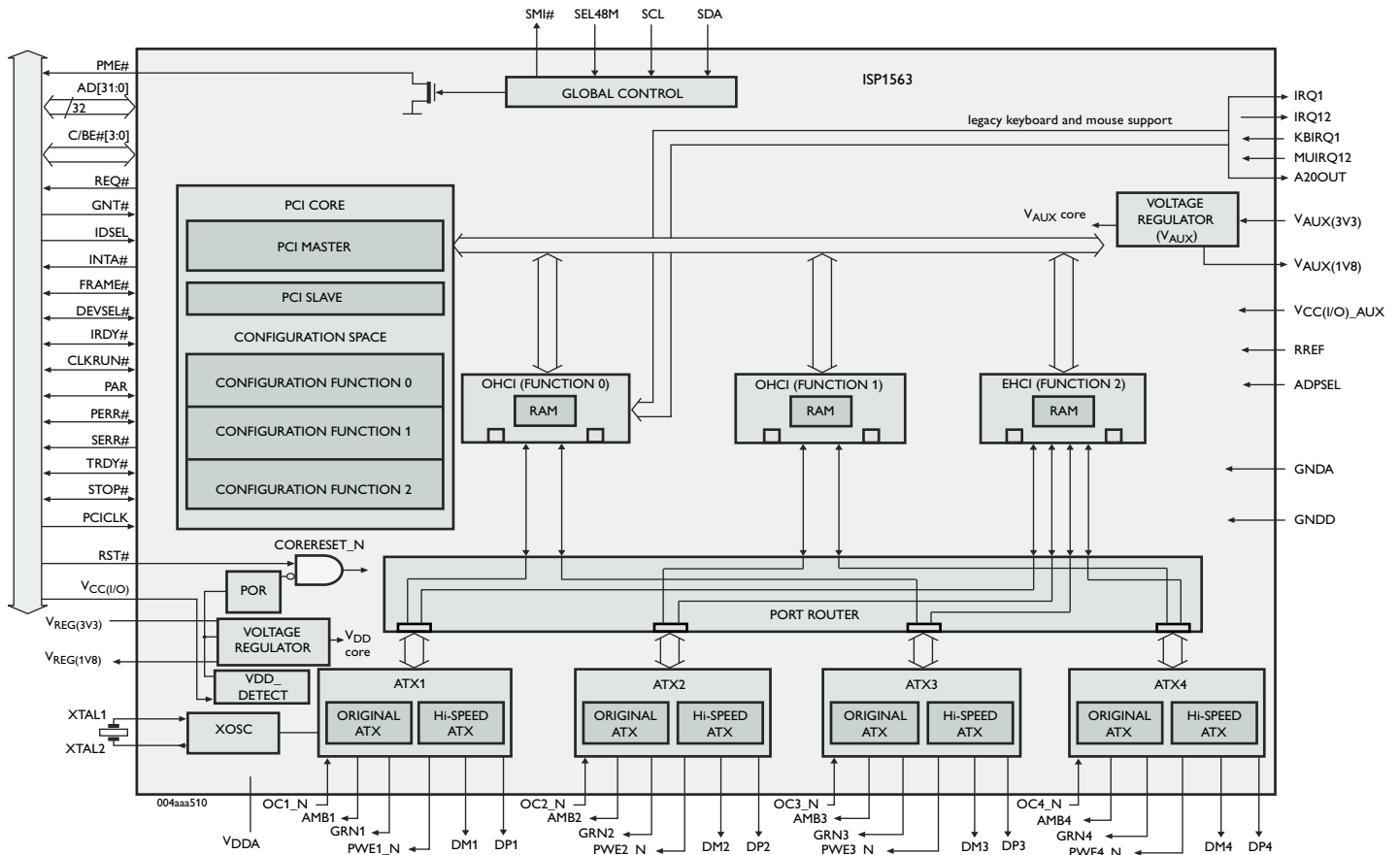
The downstream ports offer individual power switching and overcurrent protection. Both controllers support hot Plug-and-Play and can perform remote peripheral wake-up. CLKRUN capability makes the controllers suitable for mobile applications, such as laptops and notebooks.

Both controllers are fully compatible with leading operating system drivers, including the standard Microsoft® Windows® OHCI and EHCI drivers present in Windows XP, Windows 2000, and Red Hat Linux.

PHILIPS

ISP1562, ISP1563

Low-power Hi-Speed USB PCI host controllers with two or four downstream ports



Block diagram of ISP1563

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