Universe II™

PCI-to-VMEbus Bridge

Features

- Industry-proven, high performance 64-bit VMEbus interconnect
- Fully compliant, 32-bit or 64-bit, 33 MHz PCI bus interconnect
- Integral FIFOs for write posting to maximize bandwidth utilization
- Programmable DMA controller with Linked-List mode
- Flexible interrupt logic
- Sustained transfer rates up to 60-70 Mbytes/s

The Universe II is the industry standard PCI bus-to-VMEbus bridge.

- Extensive suite of VMEbus address and data transfer modes
- Automatic initialization for slave-only applications
- Flexible register set, programmable from both the PCI bus and VMEbus ports
- Full VMEbus system controller
- Support for RMWs, ADOH, PCI LOCK cycles, and semaphores
- Commercial, industrial, and extended temperature variants
- IEEE 1149.1 JTAG
- Available packages:
  - 25mm x 25mm, 361-contact dimpled ceramic BGA (DBGA)
  - 35mm x 35mm, 313-contact plastic BGA (PBGA)

The Tundra Universe II is the industry's leading high performance PCI-to-VMEbus interconnect. Universe II is fully compliant with the VME64 bus standard, and is tailored to support the next-generation of advanced PCI processors and peripherals. With a zero wait state implementation for write transactions, and the capability to support prefetch reads and multi-beat transactions, the Universe II provides high performance on the PCI bus.

The Universe II eases development of VMEbus systems by providing direct connection to a local PCI bus. The device is ideally suited for CPU or peripheral boards functioning as both master and slave in the VMEbus system. Bridging is accomplished through a decoupled architecture with independent FIFOs for inbound, outbound, and DMA traffic. With this architecture, throughput is maximized without sacrificing bandwidth on either bus.

Block Diagram
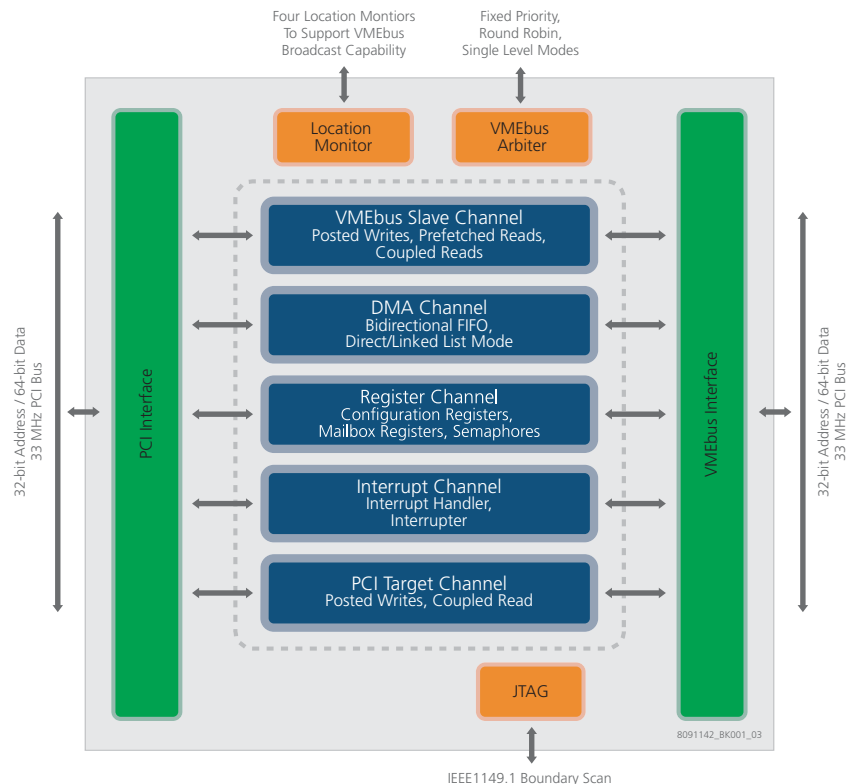
With the Universe II, you know that as your system becomes more complex, you have proven silicon that continues to provide everything you need in a PCI-to-VME bridge.

Benefits

Conserves board space with 25mm x 25mm, 361-contact dimpled ceramic BGA (DBGA)

Industry proven design

Reliable customer support with experience in hundreds of customer designs

Tundra Semiconductor is the world leader in VME Interconnect technology.

Typical Applications

The Universe II eases the development of VME Single Board Computers (SBCs) and I/O peripheral boards which target the following market segments:

- Telecommunications
- Industrial Automation
- Medical
- Military
- Aerospace

Design Support

Tundra is committed to helping customers minimize their time to market. That's why our knowledgeable Applications Engineers work closely with customers to address their needs.

Other support options include: application notes, IC models, evaluation boards, and hardware and software development tools.

For more information about our design support options, please see www.tundra.com/Universe II.

Typical Application: Single Board Computers

The Universe II is widely used on VME-based Single Board Computers (SBC) that employ PCI as their local bus and VME as the backplane bus, as shown in the accompanying diagram. These SBC cards support a variety of applications including telecom, datacom, medical, industrial, and military equipment.

The Universe II high performance architecture seamlessly bridges the PCI and VME busses, and is the VME industry's standard for single board computer interconnect device.

Application Diagram

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