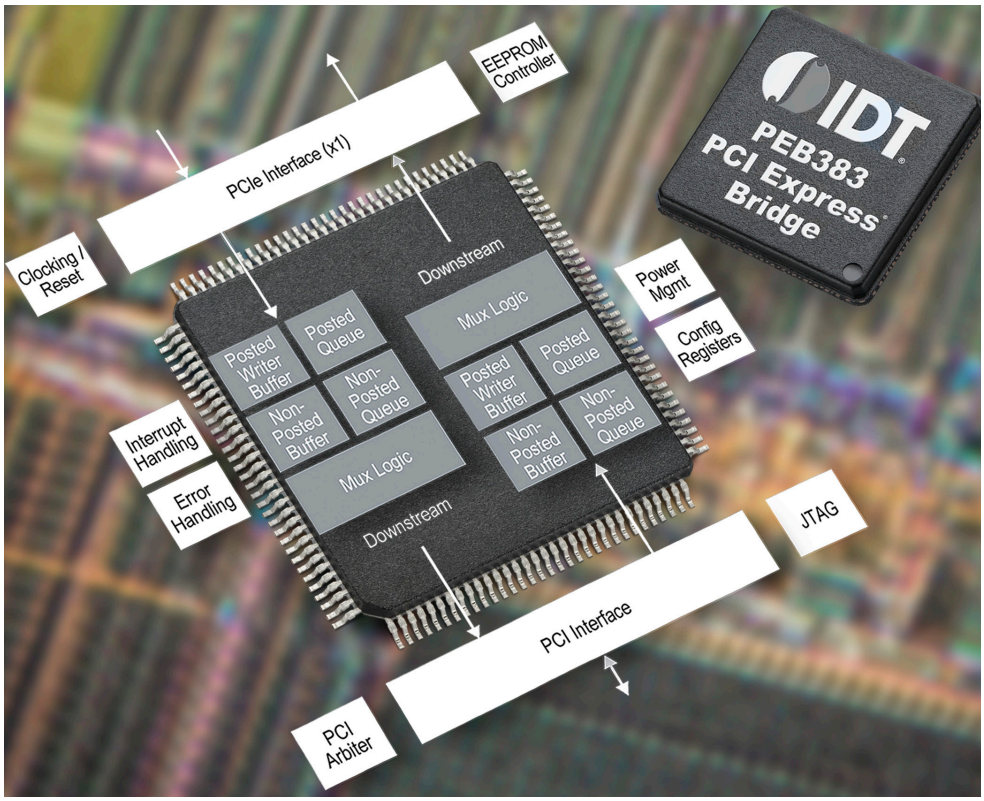
PEB383 x1 PCI Express® to 32b/66MHz PCI Bridge

Integrated Device Technology

FEATURES

- **x1 PCI Express to 32b/66MHz PCI Bridge**
  - Compliant with:
    - *PCI Express-to-PCI/PCI-X Bridge Specification (Revision1.0)*
    - *PCI-to-PCI Bridge Specification (Revision 1.2)*
  - Supports two modes of addressing:
    - *Transparent: For efficient, flow-through configurations*
    - *Non-transparent: For address remapping of the PCIe and the PCI domains*
  - Packaging designed for PCB escape routing in 4-layers
    - *14x14mm, 128 pin QFP*
    - *10x10mm, 132 pin QFN*
  - Support for Masquerade mode (can overwrite vendor and device ID from EEPROM)
  - Support for Subsystem ID (SSID) and Subsystem Vendor ID (SSVID)
  - JTAG IEEE 1149.1, 1149.6
- **Ultra Low Power**
  - Lowest active and standby power
  - Compliant with PCI Bus Power Management Interface Specification (Revision 1.2)
  - Support for D0, D3 hot, D3 cold power management states
  - ASPM L0s link state power management
  - ASPM L1
  - Standby power: 130mW
  - Common PCH (Platform Controller Hub) Supply Voltages
  - Supply Tolerance +/- 10%
- **High Performance**
  - High throughput and low latency
  - 5 times the standard read performance using Short-Term Caching
- **PCI Express Interface**
  - Compliant with PCI Express Base Specification (Revision 1.1)
  - 128-byte maximum payload
  - Advanced error reporting (AER) capability
  - End-to-end CRC (ECRC) check and generation
  - Up to four outstanding memory reads
  - 512-byte read completion buffer
  - Legacy interrupt signaling



Device Overview

The PEB383 is a bridge that interfaces x1 PCI Express to 32b / 66MHz PCI. This bridge is specified for consumer applications providing a solution with ultra low power and highest performance in a small package footprint. The PEB383 as a transparent bridge is plug and play that requires no special configuration and will initialize under standard BIOS enumeration. The typical applications that would use the PEB383 are motherboards, digital video recorders (video surveillance), set-top box, express cards for mobile devices, PC adapter cards, multi-function printers, communication line cards and NICs.

Typical Applications

Motherboards

The PEB383 provides motherboards with PCI slots by connecting the PCI Express interface to the Platform Controller Hub (PCH). The bridge is designed to simplify board design by supporting matching PCH supply voltages, integrated external master (clocks and arbiter), and optimized package designs (in a 4-layer PCB design) that result in the lowest BOM cost solution. The bridge is fully compliant with the latest PCI (3.0) and PCI Express (1.1) specifications while also providing full support for legacy mode (VIO 5V tolerance and subtractive decode), resulting in the industry's most interoperable PCI solution.

Adapter Boards

The DVR application is an adapter board that requires bridging from PCI-enabled video decoder devices to a PCI Express slot. The PEB383 is designed to perform with low latency and a proprietary short-term caching feature that improves read performance by 500%! The PEB383 is the solution for adapter boards that require the highest bandwidth performance.

FEATURES (CONTINUED)

- **PCI Interface**
  - Compliant with PCI Local Bus Specification (Revision 3.0)
  - 5V tolerant IO with VIO pins for added reliability and device protection
  - Up to 66-MHz PCI bus operation
  - Up to four outstanding read requests
  - 1-KB read completion buffer
  - Support for four external PCI bus masters through an integrated arbiter

- **Legacy Mode Support**
  - 5V tolerant IO with VIO pins for added reliability and device protection
  - Subtractive decode support in order to forward legacy cycles through the bridge

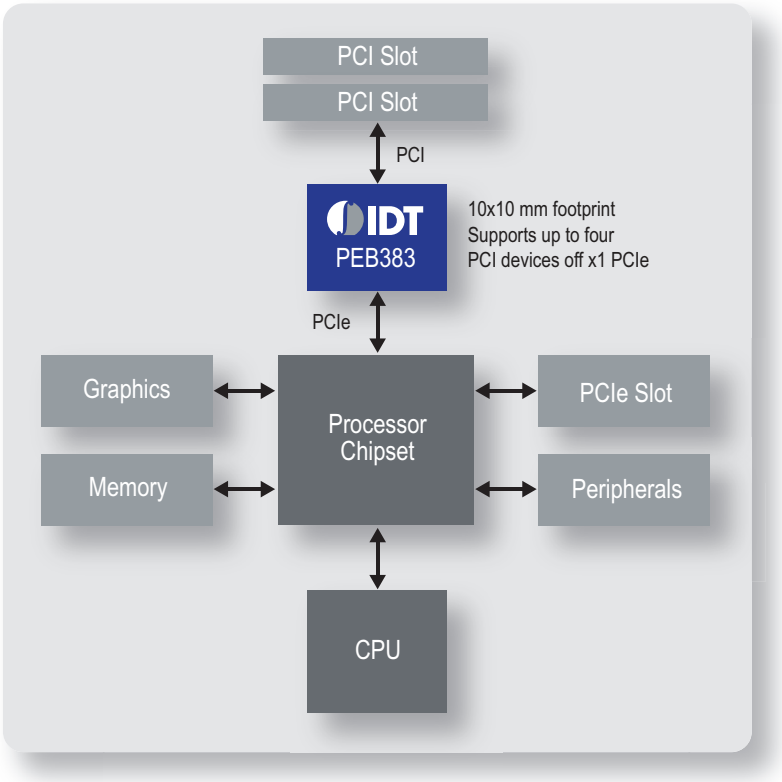


Figure 1 Motherboard Application

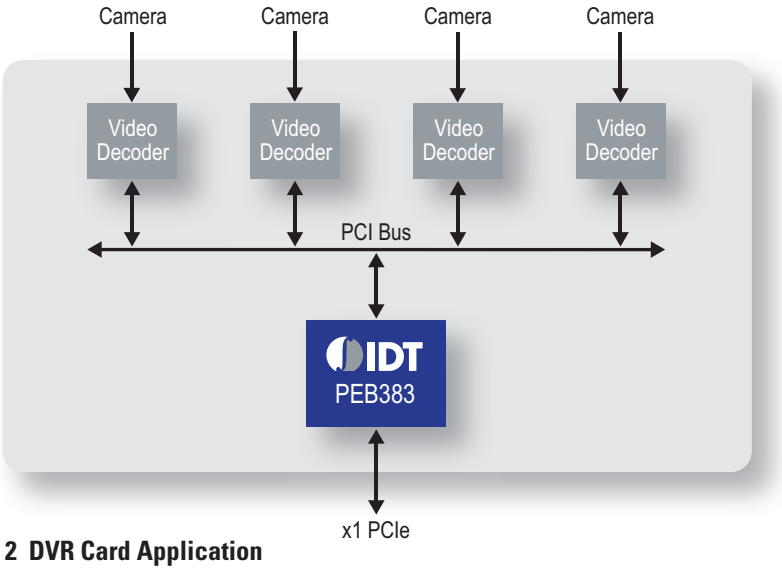


Figure 2 DVR Card Application

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