

**Product:** SlimLine™ PCI Express® to PCI Bridge

**Part Numbers:** PI7C9X118SL

## Product Description

The PI7C9X118SL is the latest addition to Pericom's PCI Express® Bridge SlimLine™ family of solutions. With the PI7C9X118SL, users can expect a performance-tuned x1 PCI Express to 32bit/66MHz PCI bridge with optimal throughput performance, ultra low power, and a small footprint that are highly desirable & tailored to desktop, workstation, ultra mobile and system module applications. Ultimately, the typical usage for PI7C9X118SL is Desktop/Workstation platforms requiring the system to enable the "Legacy Subtractive Decoding Mode". The PI7C9X118SL is a versatile PCIe-to-PCI bridging device well suited for various applications: desktop motherboards, NICs, graphics cards, combo cards, PC peripherals, and MID systems.

## Industry Specifications Compliance

- PCI Express Base Specification, Rev. 1.1
- PCI Express CEM Specification, Rev. 1.0a
- PCI Express to PCI/PCI-X Bridge Specification, Rev. 1.0
- PCI-to-PCI Bridge Architecture Specification, Rev. 1.2
- PCI Local Bus Specification, Rev. 3.0
- PCI SHPC and Subsystem Specification, Rev. 1.0
- PCI Mobile Design Guide, Version 1.1
- System Management (SM) Bus, Version 2.0
- PCI Bus PM Interface Specification, Rev. 1.1
- Advanced Configuration and Power Interface Specification, Rev. 2.0b

## Special Features

- Fully PCIe Compliant
  - Forward – PCIe primary, PCI secondary
- Maximum Payload Size – Up to 512 bytes
- Ultra Low Power Modes
  - Critical for Desktop/Workstation applications
- Support for up to 4 PCI Bus Masters
- Two level internal arbitration
- GPIO Support 4 dedicated bi-directional
- When external arbiter is used:
  - 4 additional outputs
  - 4 additional inputs
- Masquerade support
  - User defined vendor, device, revision, subsystem device, and subsystem vendor ID
- Large 8KB Buffer
  - 4KB for upstream reads, 2KB for downstream reads & 2KB for writes per port
- Tiny 14 x 14mm, 128-pin LQFP Package

## PCI Express Features

- Virtual Isochronous Support
  - Upstream TC 1 – 7 generation
  - Downstream TC 1 – 7 mapping
- 16-bit CRC, LCRC (32-bit)
- ECRC and Advanced Error Reporting
- Error Forwarding (Data Poisoning)
- ASPM support
- WAKE# support
- Lane Reversal (Polarity Toggle)

## PCI Features

- Legacy Subtractive Decoding Support
- 3.3V Signaling with 5V I/O Tolerance
- CLKREQ# support
- PME# Support
- 16-bit Address Decode for VGA
- VAUX Support (3.3V & 1.0V)
- GPIO support
- Subsystem Device and Subsystem Vendor ID
- MSI and INT Support
- SM Bus
  - PHY, data link, network layer, PEC, ARP, etc.
- I2C Serial EEPROM Support

## Application Example

