

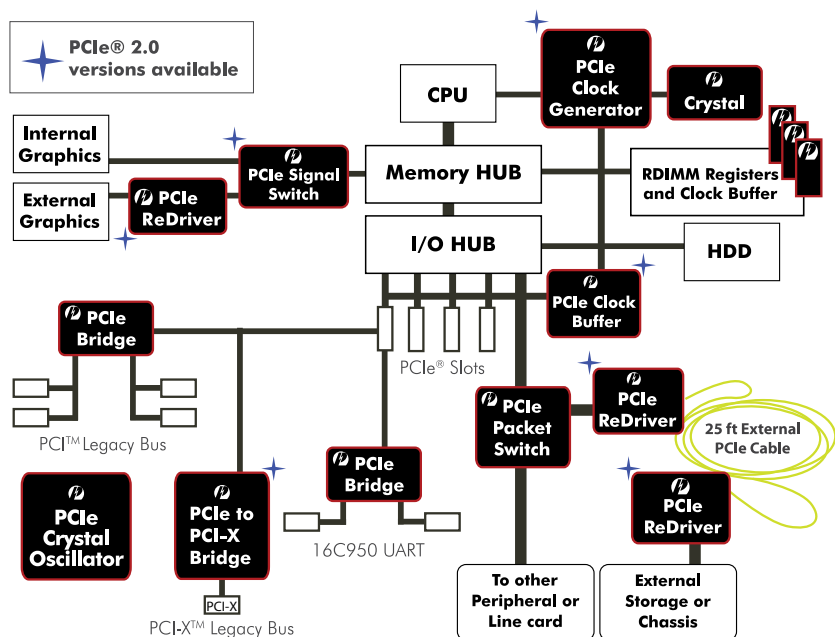
PCI EXPRESS®

Pericom's products for PCI Express® architecture enables signal quality, system performance, flexibility, reliability, system timing, EMI, express cable, and much more. Uniquely, we offer the industry's broadest portfolio of interface solutions for these high-performance protocols, including a growing portfolio supporting 5.0 Gbps PCI Express 2.0 architecture.

Why design with PCI Express?

- ▶ PCI Express technology provides a point-to-point serial differential low-voltage interconnect
- ▶ Consolidates application requirements for use by multiple market segments
- ▶ A highly flexible, scalable, reliable, and stable high-performance protocol
- ▶ Cost-effective general purpose I/O Architecture
- ▶ Allows for use of new topologies in system and communication design

Broadest PCIe® Solution in the Industry



SIGNAL INTEGRITY, SYSTEM STABILITY, SERIAL CONNECTIVITY FROM THE EXPERTS AT PERICOM.

PCIe Packet Switch, GreenPacket™ & SlimLine™ Families

- GreenPacket™ up to 5-port/8-lane
 - Supports isochronous data streaming: real-time/live video
 - 8 traffic classes and 2 virtual channels per port
 - Customer programmable PHY, switching and EEPROM configurable
- SlimLine™ ‘Industry First’ QFP and QFN packages for volume applications
 - Lowest power – PowerSave™ Technology with similar features of GreenPacket™
 - Smallest PCIe Packet Switch footprint

PCIe to PCI-X™ Bridge (PI7C9X130)

- Non-transparent mode and fully reversible – high throughput
- Customer programmable power management features
- PCIe & PCI-X bus Hot-plug support, supports 128, 256, and 512-byte payloads
- The only PCI-SIG 1.1 compliant PCIe to PCI-X bridge in the market

PCIe to PCI Family

- Reversible PCIe-to-PCI Bridge with dual priority modes
- Supports isochronous data streaming: real-time/live video
- Small packages: 12x12 LFBGA 160-pin (9x110) & 14x14 LQFP 128-pin (9x111 & 9x112)
- Reverse mode option – outstanding performance (9x110 & 9x111)
- High-output drivers – 8 PCI devices across connectors – industry unique (9x110 & 9x112)

PCIe to UART I/O Bridge

- Industry first one-chip PCIe to UART Solution, PCI-SIG 1.1 compliant
- 2, 4, or 8 high-performance 16C950 UART ports
- Perfect for POS, RSxxx applications, embedded industrial controls

PCIe 1.0 and 2.0 Signal Switching

- 1.8V and 3.3V, 2 and 4-differential channel, 2:1 mux/demux signal switches.
- 3.3V PCIe 2.0/DisplayPort and PCIe 2.0/HDMI signal switches

PCIe 1.0 and 2.0 ReDriver™

- 2.5 Gbps x1-lane and x2-lane serial PCI Express repeater/equalizers
- 5.0 Gbps x1-lane and x4-lane PCIe 2.0 Signal Conditioner
- Industry’s only PCI-SIG certified ReDriver

PCIe 1.0 and 2.0 Clock Generator

- 100-400MHz clock generator/synthesizer for Desktop PC, Mobile PC, and Server Workstation; 100-125MHz PCIe dual & quad output versions with spread-spectrum control.
- 100-125MHz PCIe Clock Generator for wireless, set-top and networking applications.

PCIe 1.0 and 2.0 Clock Buffer

- 1:4, 1:8 PCIe 100MHz differential HCSL and 1:12 PCIe/FBDIMM 100-400MHz differential HCSL, available in PCIe 1.0 and 2.0.

PCIe 1.0 and 2.0 XO & PCIe Quartz Crystals

- SHPCIE100: PCIe 2.0 Clock Oscillator, Ultra-low Jitter
- GC2500053 25MHz Crystals



GLOBAL SUPPORT

- Award-winning customer service
- Sales support worldwide
- Technical experts around the globe



INNOVATION

- Enable innovation in industry trends
- Maximize benefits of serial protocols
- Wide product selection



RELIABILITY

- ISO 9001 certified
- High-volume production
- Experienced management team

Pericom Semiconductor’s technology for connectivity, timing and signal integrity is available in silicon ICs, quartz crystals and oscillators in a broad spectrum of packages designed for flexibility, and sensitivity to space and power savings. These products enable connectivity of high-speed serial signals essential in the development of today’s electronic systems and applications. Maximize the potential of PCI Express® (both 1.0 and 2.0), USB, SATA/SAS, DisplayPort™, HDMI™/DVI, Gigabit Ethernet, or Fibre Channel in your designs by contacting us today – we’ll help you find the right bridge, switch, signal conditioner or timing solution for your next design.

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PCI Express Packet Switches

Part No.	Description	Ports	Lanes	Package
PI7C9X20303SL	3-port, 3-lane, SlimLine™ PCIe Packet Switch with PowerSave™ Technology	3	3	LQFP (FD128)
PI7C9X20404SL	4-port, 4-lane, SlimLine™ PCIe Packet Switch with PowerSave™ Technology	4	4	LQFP (FD128)
PI7C9X20303UL	3-port, 3-lane, UltraLo™ PCIe Packet Switch with PowerSave™ Technology	3	3	TQFN (ZP132)
PI7C9X20505GP	5-port, 5-lane, PCIe Packet Switch with GreenPacket™ Technology	5	5	PBGA (ND256)
PI7C9X20508GP	5-port, 8-lane, PCIe Packet Switch with GreenPacket™ Technology	5	8	PBGA (ND256)

PCI Express Timing Generators and Clock Buffers

Part No.	Function	Jitter	Skew	Speed	I/O	Outputs	Package
PI6C20400	Zero-Delay Buffer	50ps	50ps	100MHz	HCSL	4	SSOP (H28)
PI6C20400S	Zero-Delay Buffer 2.0	50ps	50ps	100MHz	HCSL	4	SSOP (H28)
PI6C20800	Zero-Delay Buffer	50ps	50ps	100MHz	HCSL	8	TSSOP (A48), SSOP (V48)
PI6C20800S	Zero-Delay Buffer 2.0	50ps	50ps	100MHz	HCSL	8	TSSOP (A48), SSOP (V48)
PI6C21200	Zero-Delay Buffer	50ps	50ps	400MHz	HCSL	12	TSSOP (A56), SSOP (V56)
PI6C410	Synthesizer, Generator	85ps	100ps	400MHz	Differential	2+7+1+7+1+1	SSOP (V56), TSSOP (A56)
PI6C410BS	Synthesizer, Generator	50ps	100ps	400MHz	CMOS/Differential	4+5+7+1+2	SSOP (V56), TSSOP (A56)
PI6C410M	Synthesizer, Generator	85ps	100ps	400MHz	Differential	2+8+1+6+1+1	SSOP (V56), TSSOP (A56)
PI6C557-03	Synthesizer, Generator	85ps	100ps	125MHz	CMOS/HCSL	2	TSSOP (L16)
PI6C557-05	Synthesizer, Generator	3.1 rms*	50ps	200MHz	HCSL	4	TSSOP (L20)
PI6C557-10	Synthesizer, Generator	86ps pk-pk	N/A	33, 100MHz	CMOS/HCSL	1+1	TSSOP (L16)

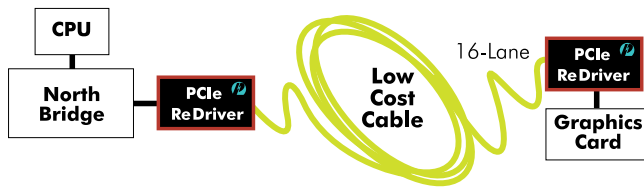
* rms jitter as defined by PCI-SIG® for PCIe 2.0

PCI Express 2.0 Crystal Oscillator

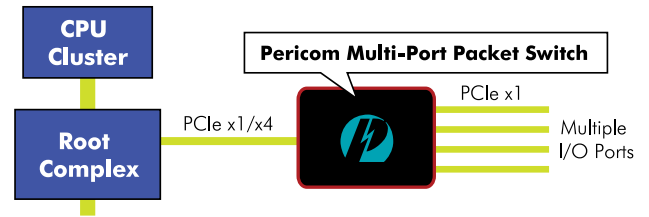
Part No.	Function	Jitter	Skew	Speed	I/O	Outputs	Package
SHPCIE100	Crystal Oscillator	HF = 2.5ps rms max	N/A	100MHz	1	HCSL	7.0mm x 5.0mm

PCI Express ReDriver™

Part No.	Description	Protocol	Data Rate Gbps	Channels	Input Equalization Options, dB	Output Level Options	Output Swing, mV Max	Output Emphasis, dB	Package
PI2EQX4401D	1-lane PCIe ReDriver with equalization and de-emphasis	PCIe	2.5	2	0, 2.5, 4.5, 6.5	1.0x, 1.2x	1300	0, -3.5	36-TQFN (ZF36)
PI2EQX4402D	2-lane PCIe ReDriver with equalization and de-emphasis	PCIe	2.5	4	0, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5	0.8x, 1.0x, 1.2x, 1.4x	1600	0, -2.5, -3.5, -4.5	84-LFBGA (NB84)
PI2EQX4432D	2-lane PCIe ReDriver/equalizer with flow-through pinout	PCIe	2.5	4	2.5, 6.5	1.0x, 1.2x	1300	0, -3.5	48-TQFN (ZD48)
PI2EQX5804C	5.0Gbps 4-lane PCIe 2.0 ReDriver	PCIe 2.0	5.0	8	1.2, 1.5, 2.6, 4.3, 5.8, 7.1, 9.0, 12.3	0.5, 0.7, 0.9, 1.0	1000	0, -2.5, -3.5, -4.5, -5.5, -6.5, -7.5, 8.5	100-LBGA (NJ100)
PI2EQX5864C	5.0Gbps 4-lane PCIe 2.0 ReDriver with I2C control	PCIe 2.0	5.0	8	1.2, 1.5, 2.6, 4.3, 5.8, 7.1, 9.0, 12.3	0.5, 0.7, 0.9, 1.0	1000	0, -2.5, -3.5, -4.5, -5.5, -6.5, -7.5, 8.5	56-TQFN (ZF56)
PI3EQX5701	5.0Gbps 1-lane PCIe 2.0 ReDriver w/ Equalization & Emphasis	PCIe 2.0	5.0	2	5, 11	1.0x	1000	0, -3.5	20-TQFN (ZD20)



PCI EXPRESS REDRIVER APPLICATION: PCIe ACROSS 25-FOOT CABLE



TYPICAL PORT EXPANSION USING PERICOM MULTI-PORT PACKET SWITCH

PCIe Signal Switch, Bridge, Packet Switch, Clock and ReDriver



PCI Express Signal Switch (1.0 and 2.0)

Volt.	Part No.	Description	Lanes	Data Rate Gbps	Configuration	Package
1.8V	PI2PCIE212	PCIe bi-directional signal switch	1	2.5	2:1 Mux/Demux, 2-Differential Channels	28-TQFN (ZH28)
1.8V	PI2PCIE2212	PCIe 2.0, 1-lane bi-directional differential 2:1 signal switch, with single control	1	5	Mux: 2-Differential Channel	28-TQFN (ZH28)
1.8V	PI2PCIE2214	PCIe 2.0, 1-lane bi-directional differential 4:1 signal switch	1	5	Mux, 2-Differential Channel	42-TQFN (ZH42)
1.8V	PI2PCIE2412	PCIe 2.0, bi-directional signal switch with single enable	2	5	2:1 Mux/Demux, 4-Differential Channels	42-TQFN (ZH42)
1.8V	PI2PCIE2422	PCIe 2.0 bi-directional signal switch with single enable and Bypass mode	2	5	2:1 Mux/Demux with bypass, 4-Differential Channels	42-TQFN (ZH42)
1.8V	PI2PCIE2442	PCIe 2.0, 2-lane bi-directional differential 2:2 exchange switch, with single control	2	5	Exchange, 4-Differential Channel	42-TQFN (ZH42)
1.8V	PI2PCIE412-D	PCIe, bi-directional signal switch with single enable and enhanced ESD	2	2.5	2:1 Mux/Demux, 4-Differential Channels	42-TQFN (ZH42)
3.3V	PI3PCIE2215	PCIe 2.0, 1-lane bi-directional differential 2:1, with single control	1	5	Mux: 2-Differential Channel	28-TQFN (ZH28)
3.3V	PI3PCIE2415	PCIe 2.0, dual graphics Mux, single enable	2	5	Mux, 2:1: 4-Differential Channel	28-TQFN (ZH28)
3.3V	PI3PCIE2612-A	PCIe 2.0 / DisplayPort (6-channel), ATX pinout	-	5	Mux, 6-Differential Channels, ATX pinout	56-TQFN (ZF56)
3.3V	PI3PCIE2612-B	PCIe 2.0 / DisplayPort (6-channel), BTX pinout	-	5	Mux, 6-Differential Channels, BTX pinout	56-TQFN (ZF56)
3.3V	PI3PCIE2615	HDMI/PCIe 2.0 / Level-shifting 1:2 display mux, with inverted HPD	-	5	Mux, 6-Differential Channels	56-TQFN (ZF56)
3.3V	PI3PCIE2635	HDMI/PCIe 2.0 / level-shifting 1:2 display mux, with non-inverted HPD	-	5	Mux, 6-Differential Channels	56-TQFN (ZF56)

PCI Express Bridges (available in Pb-free & Green and Pb-ball option for PI7C9X110/PI7C9X130)

Part No.	Description	PCI Bus Masters	PCI Speed	PCI Bus Width	Ports	Lanes	Package
PI7C9X110	PCIe-to-PCI Reversible Bridge	8	66 MHz	32-bit	1 PCI	1	LFBGA (NB160)
PI7C9X111SL	PCIe-to-PCI Reversible Bridge with PowerSave™	4	66 MHz	32-bit	1 PCI	1	LQFP (FD128)
PI7C9X112SL	PCIe-to-PCI Reversible Bridge with PowerSave™	8	66 MHz	32-bit	1 PCI	1	LQFP (FD128)
PI7C9X130	PCIe-to-PCI-X Reversible Bridge	-	133 MHz	64-bit	1 PCI-X	4	PBGA (ND256)
PI7C9X7952	PCIe-to-Dual UART I/O Bridge	-	-	-	2 UART	1	LQFP (FD128)
PI7C9X7954	PCIe-to-Quad UART I/O Bridge	-	-	-	4 UART	1	LQFP (FD128)
PI7C9X7958	PCIe-to-Octal UART I/O Bridge	-	-	-	8 UART	1	LFBGA (NB160)