NETWORKING SOLUTIONS

PERICOM®
Enabling Serial Connectivity

Pericom provides key serial connectivity, signal conditioning, switching and timing solutions for the growing Networking market segment. For more information, please visit www.pericom.com.

Why Design with Pericom's Solutions for Networking?

- ➔ Low-jitter and low-voltage clock generator/buffers, CMOS, PECL, LVDS/ HCSL oscillators
- ➔ PCIe® 1.0/2.0, XAUI, USB 3.0 signal conditioning/switching, timing and packet switch/bridge solutions
- ➔ Widest offering of bus switches and level translators

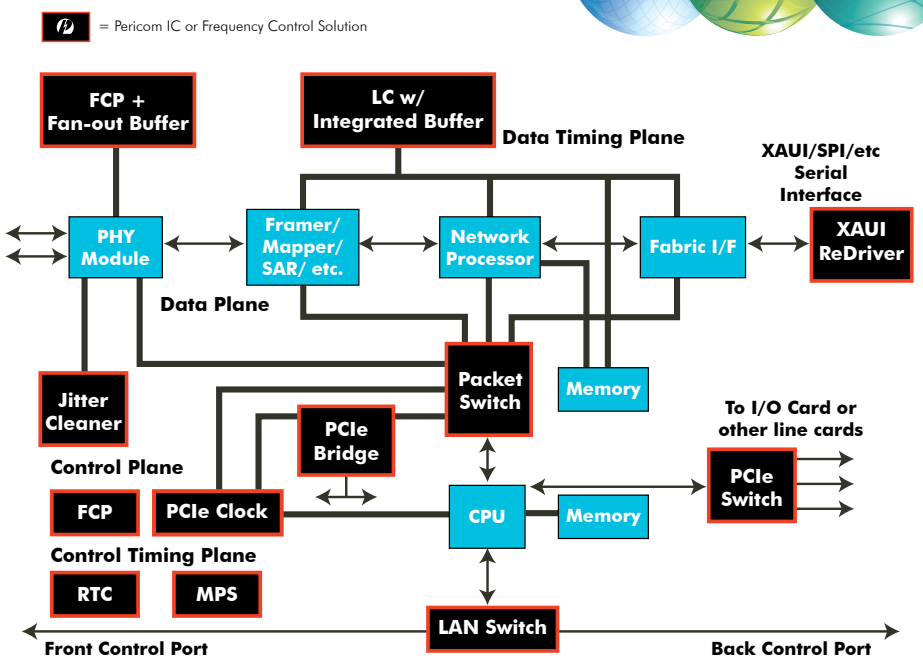
Low Jitter LC Clock Generators/Buffers

- Flexible output levels—CMOS, PECL, LVDS, HCSL, max frequency of 312.5MHz
- Very low phase jitter—0.4ps RMS typical (12kHz - 20MHz)
- Excellent power supply noise rejection—46dB typical
- PCIe® Clock—compliant to PCIe® 2.0 jitter specs
- Multiple outputs eliminating external buffers
- Combination of LC PLL and Ring PLL in base—allowing frequency and spread spectrum flexibility

Low Jitter Oscillators, VCXO for Wired and Wireless Networks

- Leading-edge CMOS, PECL, LVDS and HCSL oscillators—up to 670MHz
- 0.3ps typical phase jitter—12kHz - 20MHz
- PCIe® 2.0 compliant ultra-low jitter HCSL XO
- Low close-in phase noise—161dBc/Hz at 10kHz offset at 40MHz
- 2.0mm x 1.6mm XO intended for wireless module applications
- Voltage options from 1.2V to 3.3V

Solution for Switch/Router Applications



Low Voltage Clock Generators/Buffers

- Provides the industry's lowest voltage (1.2V) clock generator/buffer with lowest skew—60ps
- Provides integrated crystal oscillator with lowest phase jitter—0.6ps RMS in 12kHz - 20MHz band
- Provides input duty cycle correction for sensitive networking applications
- Are on Broadcom and Marvell's GE switch reference designs

Jitter Cleaner

- Designed to go with Broadcom Synchronous Ethernet reference designs with very low phase jitter—0.3ps RMS

Small Size Crystals for Wireless Networking

- Crystals down to 2.0mm x 1.6mm size and thickness down to 0.45mm, free running mode ±100ppm, lock detection
- Tight stability down to ±10ppm for calibration tolerance and temperature stability

Level Translators

- Signal translations—LVTTL, HSTL, SSTL, PECL, LVDS, HCS
- Different voltage levels—1.5V, 1.8V, 2.5V, 3.3V, 5V

PCI Express® Clock Generators/Buffers

- Comply to PCIe® 2.0 jitter requirement; 100/125/200MHz HCSL generator output with spread option
- Small footprint 4mm x 4mm, 20-pin, TQFN buffer for mini PCIe® wireless application

PCI Express® 1.0/2.0 Packet Switch/Bridge

- SlimLine™ smallest footprint packet switch with lowest power, an industry first!
- PCIe® to PCI-X™, PCI™, UART bridge option

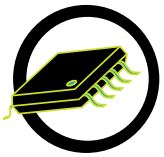
ReDriver™ & Signal Switch - XAUI, PCIe® 1.0/2.0, USB 3.0

➔ ReDriver™

- x1, x4-lane configurations
- Adjustable & adaptive receiver equalization
- Highly configurable
- Low power per channel

➔ Signal Switch

- Low crosstalk/insertion loss/skew
- 2-lane, 2:1 mux/demux
- PCIe® 2.0 @ 5Gbps
- SAS/SATA/XAUI @ 6.5Gbps



SIGNAL INTEGRITY, SERIAL CONNECTIVITY, and TIMING

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.

Voltage Translation Products (Switching and Auto/Manual Direction Control)

Part No.	Description	Translator	Package
PI3VT3245	8-bit, 2-port, Low Voltage Translator	3.3V to 2.5V	QSOP (Q20), TSSOP (L20)
PI3VT32X245/34X245	16-bit, 32-bit, 2-port, Low Voltage Translator	2.5V to 1.8V	BQSOP (B40/B80)
PI3VT3306	2-bit, 2-port, Low Voltage Translator	3.3V to 2.5V	MSOP (U8), TSSOP (L8)
PI4ULS3V08/16	8-bit, 16-bit Automatic Direction Sensing Voltage Translator	1.5V to 3.3V	TQFN (ZF36)/TSSOP (A56)
PI74AUC164245	16-bit Level Shifting Transceiver	0.8V to 2.7V	TSSOP (A48)
PI74AVC164245	16-bit Level Shifting Transceiver	3.3V to 2.5V	TSSOP (V48, A48)
PI74AVC164245A/LA	16-bit Level Shifting Transceiver	3.3V to 1.8V/2.5V	SSOP (V48)/TSSOP (A48)
PI74HSTL1212	24-bit HSTL Bi-Directional Level Shifting Transceiver	3.3V to 1.8V	TSSOP (64)
PI74LVCC3245A	8-bit Dual Supply Bidirectional Transceiver	3.3V to 5V	QSOP (Q24), SOIC (S24), TSSOP (L24)
PI74LVCC4245A	8-bit Dual Supply Bidirectional Transceiver	3.3V to 5V	QSOP (Q24), SOIC (S24), TSSOP (L24)

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® Bridges

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 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)

PCI Express® Signal Switch (PCIe1.0 and 2.0)

Part No.	Description	Voltage	Lanes	Data Rate Gbps	Package
PI2PCIE212	PCIe 2:1 mux/demux, 2-channel	1.8V	1	2.5	TQFN-28 (ZH28)
PI2PCIE2412	PCIe 2.0, 2:1 mux/demux, 4-channel	1.8V	2	5	TQFN-42 (ZH42)
PI2PCIE2422	PCIe 2.0 2:1 mux/demux, 4-channel	1.8V	2	5	TQFN-42 (ZH42)
PI2PCIE412-D	PCIe, 2:1 mux/demux, 4-channel	1.8V	2	2.5	TQFN-42 (ZH42)
PI3PCIE2215	PCIe 2.0, 1-lane bi-directional Differential 2:1, with single control	3.3V	1	5	28-TQFN (ZH28)
PI3PCIE2415	PCIe 2.0, 2:1 mux/demux, 4-channel	3.3V	2	5	42-TQFN (ZH42)

PCI Express® ReDriver™

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

USB 3.0, XAUI ReDriver™ Signal Conditioner

Part No.	Protocol	Function	Package
PI3EQX7701	USB 3.0 ReDriver	5.0Gbps 1-port USB 3.0 ReDriver w/ Equalization and Emphasis	TQFN (ZD20)
PI3EQX7711	USB 3.0 ReDriver	5.0Gbps 1-port USB 3.0 ReDriver w/ Adaptive Equalization & Emphasis	TQFN (ZD20)
PI2EQX3201A	SAS/SATAx/XAUI	3.2Gbps 1-port SAS/SATAx and XAUI ReDriver	TQFN (ZF36)
PI2EQX3202A	SAS/SATAx/XAUI	3.2Gbps 2-port SAS/SATAx and XAUI ReDriver	LFBGA (NB84)
PI2EQX3232A	SAS/SATAx/XAUI	3.2Gbps 2-port SAS/SATAx and XAUI ReDriver w/ flow-through pinout	TQFN (ZD48)
PI2EQX3421	SAS/SATA/XAUI	3.2Gbps 1-port SAS/SATA/XAUI ReDriver/Port 2:1Switch	TQFN (ZH28)
PI2EQX6804	SAS/SATA/XAUI	6.5Gbps 4-port SAS/SATA/XAUI ReDriver	LFBGA (NJ100)

Key Clocks for Networking (please visit www.pericom.com for complete listing of clocks; contact sales for information on LC Ethernet Clock Generators)

Part No.	Function	Frequency (MHz)	I/O	Outputs	Package
PI6LC4820	LC Ethernet Clock Generator	312.5/156.25/125	5,3,1	PECL/LVDS	48-TQFN
PI6LC4830	LC PCIe 2.0 Clock Generator	25, 100, 100/50	1,3,1	PECL, HCSL/CMOS, CMOS	32-TQFN
PI6LC4831	LC Ethernet/PCIe 2.0 Clock Generator	25, 100, 24, 100/200	12,2,2,1	CMOS, HCSL, CMOS, HCSL	56-TQFN
PI6LC4840	LC Ethernet Clock Generator	25,125, 125	3,3,3	CMOS, CMOS, LVDS	32-TQFN
PI6C49004	PCIe 1.0/PCI/Ethernet/Memory Clock Generator	32.256, 33/66/100, 100, 50	1,1,12,2	CMOS, CMOS, HCSL	56-TSSOP
PI6C557-05	PCIe 2.0 Clock Generator	100/125/200	4	HCSL	20-TSSOP
PI6C557-10	PCIe 1.0/PCI Clock Generator	100, 33	1,1	LVDS, CMOS	16-TSSOP
PI6C20400A	PCIe 2.0 Zero Delay Buffer (3.3V)	100	4	HCSL	28-SSOP, 28-TSSOP
PI6C48535-11	Differential Clock Generator/Buffer	500	4	PECL	20-TSSOP
PI6C10806A/B	Clock Generator/Buffer	250/100	6	CMOS	16-TSSOP
PI6CX201	Jitter Cleaner - I/P 12.5/25/33.33/66.66MHz	25	1	CMOS	20-TSSOP
PT7C4050	Clock Translator/Jitter Cleaner - I/P 8kHz - 40MHz	10~40	1	CMOS	28-TSSOP
PI6CV304	Clock Buffer 3.3V	160	4	CMOS	8-SOIC, 8-TSSOP
PI6C18551	Clock Buffer 3.3V/5V	160	4	CMOS	8-SOIC
PI6C10804	Clock Buffer 1.8V/2.5V	250	4	CMOS	8-SOIC
PI6C10807	Clock Buffer 1.8V/2.5V	250	10	CMOS	20-TSSOP, 20-SSOP
PI6C10810	Clock Buffer 1.2V~2.5V	250	10	CMOS	20-TSSOP
PT7C433833	Real-Time Clock	32.768kHz	1	CMOS	8-SOIC, 8-MSOP

ASSP-XO™

Part No.	SHPCIE100	SN10GE156	SX10GE156	SNGPON155	SXGPON155	FNETHE025
Pkg. Size (mm)	7x5	7x5	7x5	7x5	7x5	7x5
Output Logic	HCSL	PECL	CMOS	PECL	CMOS	CMOS
Supply Voltage	2.5V - 3.3V	3.3V	3.3V	3.3V	3.3V	3.3V
Freq. (MHz)	100	156.25	156.25	156.52	156.52	25
Application	PCIe 2.0	10GE	10GE	GPON	GPON	GE

USB 2.0/3.0 and Bus Switch

Part No.	Protocol	Function	Package
PI2USB3212	USB 3.0	5.0Gbps USB 3.0 Compatible Signal Switch	TQFN (ZH28)
PI3USB10	USB 2.0	3.3V, Wide Bandwidth, 2-Channel, 2:1 Mux/DeMux USB 2.0 Switch	TDFN (ZE12)
PI3USB221	USB 2.0	High-speed USB 2.0 1:2 Multiplexer/DeMultiplexer w/ Signal Enable	TDFN (ZE10), TLLGA (XA10)
PI3USB10LP-A	USB 2.0	Dual SPDT for USB 2.0 HS Compliance with 8kV ESD Protection	TQFN (ZL10 & ZM10)
PI3USB20	USB 2.0	3.3V, Wide Bandwidth, 4-Channel, 2:1 Mux/DeMux USB 2.0 Switch	TSSOP (L16)
PI3USB2117	USB 2.0	Dual SPST for USB High-speed Signals NC	TQFN (ZL10)
PI3USB32	USB 2.0	Dual SPST USB 2.0 Switch with Back Drive Support	TLLGA (XA8)
PI3USB40	USB 2.0	3.3V, Wide Bandwidth, 8-Channel, 2:1 Mux/DeMux USB 2.0 Switch	TSSOP (A48)
PI3C3306	Bus Switch	2.5V/3.3V, 2-bit, 2-port High-bandwidth Bus Switch	TSSOP (L8), MSOP (U8)
PI5C3125	Bus Switch	5V 4-Bit Bus Switch with Individual Low Enables	QSOP (Q16)
PI5C3257	Bus Switch	5V Quad 2:1 Mux/Demux Bus Switch	QSOP (Q16)
PI5C3384	Bus Switch	5V 10-Bit Bus Switch	TSSOP (L24), QSOP (Q24)
PI3B3257	Bus Switch	3.3V Quad 2:1 Multiplexer/Demultiplexer Bus Switch	QSOP (Q16)
PI5C3253	Bus Switch	5V Dual 4:1, Multiplexer/Demultiplexer Bus Switch	QSOP (Q16)
PI3B32X245	Bus Switch	3.3V 16-Bit Bus Switch	BQSOP (B40)
PI3CH3245	Bus Switch	2.5V/3.3V, 8-Channel, 2-Port, High-speed NanoSwitch Bus Switch	TSSOP (L20), QSOP (Q20)
PI3CH3384	Bus Switch	2.5V/3.3V, 10-Channel, 2-Port High-speed NanoSwitch Bus Switch	TSSOP (L24), QSOP (Q24)