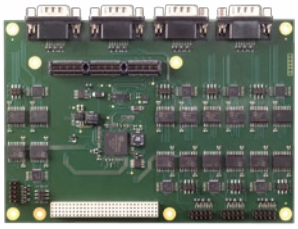
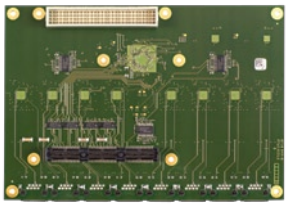
EXP-ISO-COM8/ETH8

EPIC Express Octal Serial Interface Add-On board /
EPIC Express Octal Ethernet Interface Add-On board



EXP-ISO-COM8



EXP-ETH8

EXTREME RUGGED

Features

EXP-ISO-COM8

- 8 independent serial ports, RS-232/422/485, Galvanically isolated
- 4 Mb/s maximum (RS-422/RS-485), 460 Kb/s maximum (RS-232)
- 128 byte FIFOs
- Single lane PCI Express, DMA/bus mastering for all UARTs
- -40°C to +85°C support (optional)

EXP-ETH8

- 8 independent Gigabit Ethernet ports
- 10/100/1000 Mb/s, Full duplex at all speeds
- Configurable Rx and Tx FIFOs
- PCI Express x8 interface
- PCI Express base spec 1.1 compliant
- -40°C to +85°C support (optional)

Specifications (EXP-ISO-COM8)

Core System

Controller	PLX OXPCIe958
	PCI Express to octal serial port
PCI Express	Single lane with integrated SerDes
	PCI Express base spec 1.1 compliant
	PCI Power Management 1.2 compliant
	MSI/MSI-X compatible
	DMA/bus mastering facility
	ASPM (L0S, L1) Link power management

Power

Supply Current	0.5 A maximum

Ethernet

Serial	8x RS-232/RS422/RS485
Transmission Speed	RS-422/RS485: 4 Mb/s max.
	RS-232: 460Kb/s max.
RS-485 Termination	Integrated termination resistors
	Selectable with jumper
Serial Ports	High-performance Oxford Semiconductor 950 UARTs
	128-byte deep transmit/receive FIFOs
	9, 8, 7, 6 & 5- bit data framing
	Flexible clock prescaler from 1 to 31.875
	Automated in-band, Xon/Xoff flow control
	Automated hardware flow control
	Advanced FIFO fill management
	Programmable RS-485 turn-around delay
	16C450 through 16C950 software compatibility

Mechanical and Environmental (both products)

Operating Temperature	Standard: 0°C to +60°C
	Industrial: -20°C to +60°C
	Extended: -40°C to +85°C (optional)
Board Format	115 x 165 mm (4.528" x 6.496")
Status LED	Yes, power indicator

Operating Systems (both products)

Standard Support	Windows 7, Windows XP, XP Embedded, Linux

Specifications (EXP-ETH8)

Core System

Controller	8x Intel® 82574L
	PCI Express x1 based GBIT Ethernet Controller
PCI Express Switch	PLX PEX8618
PCI Express	64-bit address master support
	Programmable host memory receive buffers (256 bytes to 16 KB)
	Intelligent interrupt generation
	Descriptor ring management hardware for transmit and receive
	Message Signaled Interrupts (MSI and MSI-X)
	Configurable receive and transmit data FIFO, programmable in 1 KB increments

Power

Supply Current	2.2A @ 5V; 3.3V @3.3V

Ethernet

MAC	Flow Control Support compliant with the 802.3X
	VLAN support 802.1Q compliant
	MAC Address filters
	Statistics
	MAC loopback
PHY	Compliant with 802.3 802.3u 802.3ab
	802.3ab auto negotiation support
	Full duplex at 10/100/1000 Mb/s
	Half duplex at 10/100 Mb/s
	Auto MDI, MDI-X crossover
Ethernet Features	TCP segmentation capability
	Support up to 256 KB TCP segmentation (TSO v.2)
	Fragmented UDP checksum offload for packet reassemble
	IPv4 and IPv6 checksum offload support
	Split header support
	Receive Side Scaling (RSS) with two hardware receive queues
	9 KB jumbo frame support
	40 KB packet buffer size

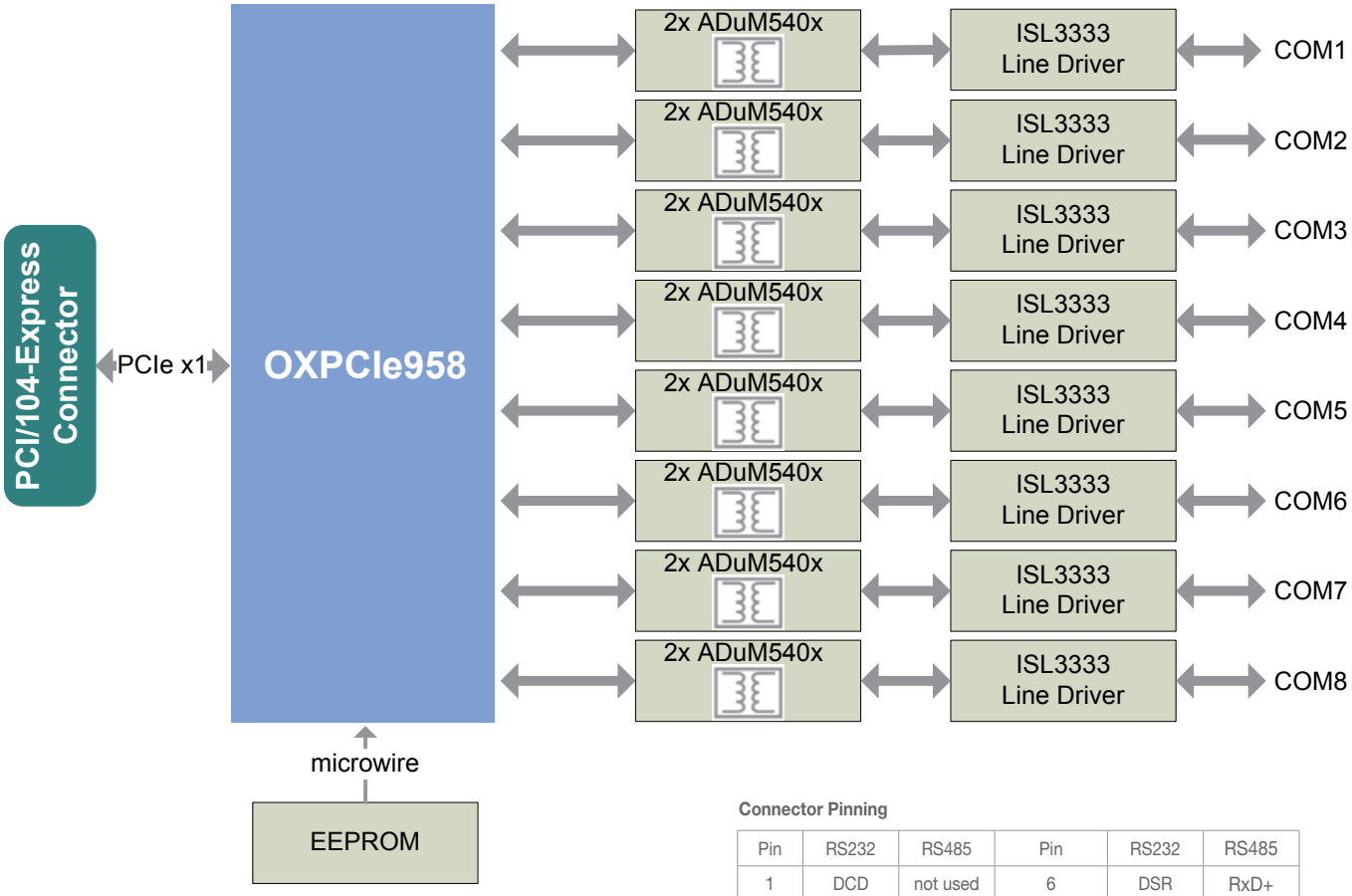
Controller Features

Manageability	NC-SI for remote management core
	SMBus advanced pass through interface
Low Power	Magic Packet* wake-up enable with unique MAC address
	ACPI register set and power down functionality supporting D0 and D3 states
	Full wake up support (APM and ACPI 2.0)
	Smart power down at S0 no link and Sx no link
	LAN disable function

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Functional Diagram

EXP-ISO-COM8



Connector Pinning

Pin	RS232	RS485	Pin	RS232	RS485
1	DCD	not used	6	DSR	RxD+
2	RxD	RxD-	7	RTS	TxD+
3	TxD	TxD-	8	CTS	not used
4	DTR	not used	9	RI	not used
5	ISOGND	ISOGND	Shield/10	not used	not used

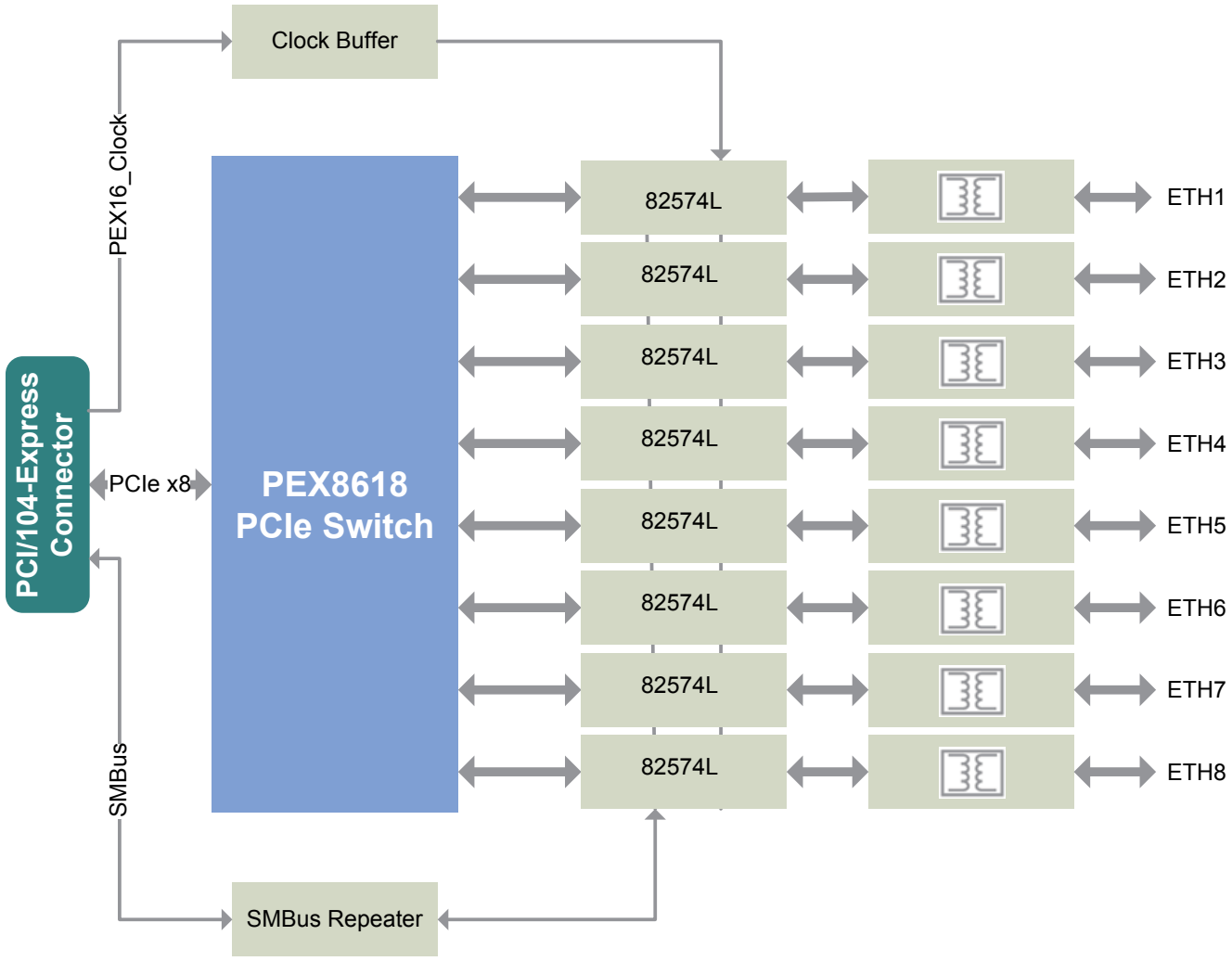
Ordering Information

Modules

Model Number	Description/Configuration
714-0002-10	EPIC-Express, Add-On card, 8x COM, 0°C to +60°C
814-0002-10	EPIC-Express, Add-On card, 8x COM, -20°C to +60°C
914-0002-10	EPIC-Express, Add-On card, 8x COM, -40°C to +85°C
862-0007-10	Cable, IDC10 (2.54mm) to DSUB9 (COM)

Functional Diagram

EXP-ETH8



Ordering Information

Modules

Model Number	Description/Configuration
714-0004-10	EPIC-Express, Add-On card, 8x ETH, 0°C to +60°C
814-0004-10	EPIC-Express, Add-On card, 8x ETH, -20°C to +60°C
914-0004-10	EPIC-Express, Add-On card, 8x ETH, -40°C to +85°C

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