GE
Intelligent Platforms

PMC-HS-SERIAL

Quad Channel High-Speed Serial PMC

Features

- Four channels of high-speed serial
- Maximum data rate of 10 Mb/s (synchronous) and 2 Mb/s (asynchronous)
- Asynchronous, monosync, bisync, HDLC, SDLC, LAPB, LAPD, ISDN, and PPP communication protocols supported
- RS-232, RS-422, EIA-449, EIA-530, or V.35 physical interfaces supported
- 306 x 32-bit total FIFO
- PMC with front- and rear-panel I/O
- PCIbus master
- RoHS compliant

PMC-HS-SERIAL is a single-wide PCI Mezzanine Card (PMC) that provides four high-speed asynchronous or synchronous serial channels for space-constrained, high-performance communications applications.

A maximum data rate of 10 Mb/s is supported for synchronous protocols using an external clock. Up to 2 Mb/s is supported for asynchronous protocols, with popular baud rates of up to 921.6 Kbaud available using the standard 14.745 MHz oscillator in RS-422 interface mode. Each of the four channels is fully programmable to support many high-performance serial communications protocols, such as synchronous, monosync, bisync, HDLC, SDLC, LAPB, LAPD, ISDN, and PPP.

PMC-HS-SERIAL supports a wide selection of physical interfaces, configurable by software alone. Channels can be individually selected as RS-232, RS-422, EIA-449, EIA-530, or V.35. No hardware re-configuration is required. Seven signal pairs for each channel are available at the rear-panel P4 connector and the front-panel I/O connector. An optional transition cable is available to interface the 68-pin front-panel I/O connector to four DB25s.

A 14.7456 MHz standard oscillator provides standard asynchronous baud rates. In addition, a user-supplied oscillator location is available for custom baud rate generation. Interrupts are fully supported for each channel. Interrupt sources include transmission error, reception error, completions of transmit packets and completions of receive packets.

The card has a central receive FIFO and a central transmit FIFO, each 128 deep by 32 bits wide. Additionally, each channel has a local receive FIFO 17 deep by 32 bits wide, and a local transmit FIFO of 8 deep by 32 bits wide. Eight DMA controllers are available to enable the central FIFO to burst into shared memory. The PMC uses a high-performance Siemens PEB20534 Serial Communication Controller with integral PCIbus interface.

The PMC-HS-SERIAL addresses a variety of applications including data communications, LAN/WAN, networking and telecommunications.

PMC-HS-SERIAL Quad Channel High-Speed Serial PMC

Specifications

Form Factor
- Single-wide PMC

PCI Interface
- 33 MHz, 32-bit, master/slave Bus mastering required

PMC Conformance
- PCI Protocol and Electrical Rev. 2.0 Specification

PCI Interface/Serial Controller
- Siemens PEB 20534

Number of Serial Channels
- Four

Maximum Data Rate
- Asynchronous: 2 Mb/s
- Synchronous: 10 Mb/s

Physical Levels Supported
- RS-232, RS-422, EIA-449, EIA-530, V.35

Protocols Supported
- Asynchronous UART, bisync, monosync, HDLC, SDLC, LAPB, LAPD, PPP, ISDN BRI

RS-232 Signals Supported
- RxD, RxC, CTS, CD, TxD, TxC, RTS

RS-422, EIA-449, EIA-530 Signals Supported
- RxD+, RxD-, RxC+, RxC-,CTS+, CTS-, CD+, CD-, TxD+, TxD-, TxC+, TxC-, RTS+, RTS-

V.35 Signals Supported
- TxD+, TxD-, RxD+, RxD-,TxC+, TxC-, RxC+, RxC-, CTS, RTS, CD

FIFOs
- Local Receive: 17 x 32-bit, each channel
- Local Transmit: 8 x 32-bit, each channel
- Central Receive: 128 x 32-bit
- Central Transmit: 128 x 32-bit

On-board Oscillator
- 14.7456 MHz to support standard asynch baud rate
- User-supplied oscillator location is available for custom baud rate generation

DMA Controllers
- Eight

Front-Panel I/O
- 68-pin high density female connector

Rear-Panel I/O
- Via PMC P4

Power Requirements
- +5.0 VDC (typical):
  860 mA operating V.35 mode
  640 mA operating EIA-422 mode
  430 mA operating EIA-232 mode

Temperature
- Operating: 0° to 70° C
- Storage: -40° to 85° C

Humidity
- 5% to 95%, non-condensing

Weight
- 0.085 kg(0.19 lbs)

Dimensions
- 75.0 mm x 150.0 mm

Software Drivers
- VD-HSSMULTI VxWorks x86 and PPC: asynchronous, PPP
- VD-HSS-SYNC VxWorks x86 and PPC: synchronous, HDLC
- LXD-HSSERIAL: Linux x86

Ordering Options

11050-201: Quad channel high-speed serial PMC; RoHS

C-HD68M-4D25M: HD68 to quad DB25 cable

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit www.ge-ip.com.

GE Intelligent Platforms Contact Information

Americas: **1 800 433 2682** or **1 434 978 5100**
Global regional phone numbers are listed by location on our web site at **www.ge-ip.com/contact**

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