HSS-PMC-CC

High Speed Serial Interface

SBS Technologies®

Features

PMC Conduction Cooled

Up to eight ports of high-speed serial data communications

Up to eight TTL user outputs

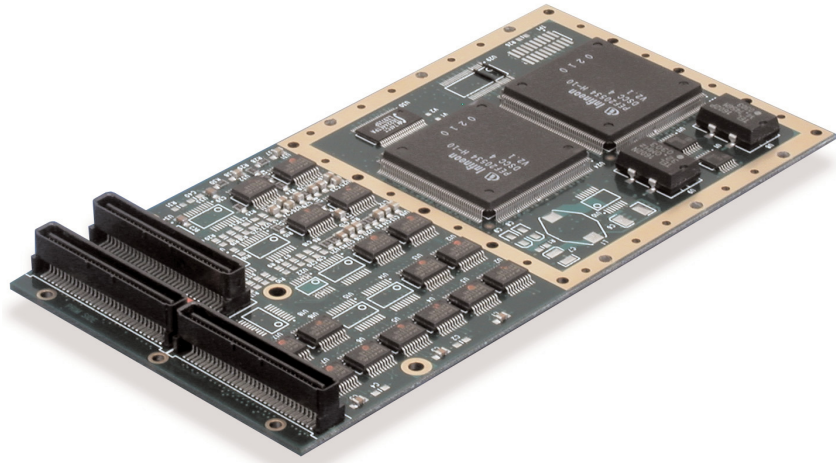**Maximum data rate of 10 Mbit/s (synchronous) and 2 Mbit/s (asynchronous)**

Applications
- Data communications
- LAN/WAN networking
- Telecommunications
- Avionics
- Vetronics
- Navtronics

Communication protocols supported
- Asynchronous, synchronous HDLC, and SDLC

Interfaces supported
- RS-232, RS-422/485

HSS-PMC-CC card provides up to 8 ports of high-speed serial data communications on a single-wide PMC module. You can use the HSS-PMC-CC card in many data communications, LAN/WAN networking and telecommunications applications. Using an external clock, it supports a maximum data rate of 10 Mbit/sec for synchronous protocols . The HSS-PMC-CC card supports up to 2 Mbit/sec for asynchronous protocols, and popular baud rates of up to 921.6 Kbaud available using the standard 14.7456 MHz oscillator in RS-422 interface mode. Each port is fully programmable to support many high performance serial communications protocols, such as asynchronous, HDLC, and SDLC. The figure below shows a simplified block diagram of the HSS-PMC-CC card.
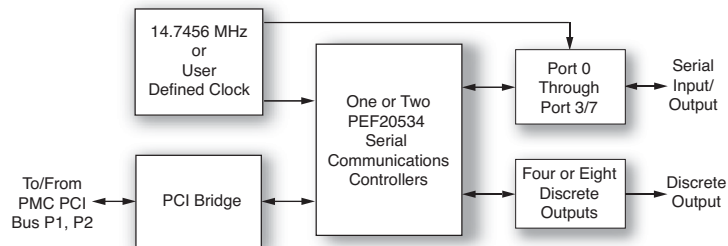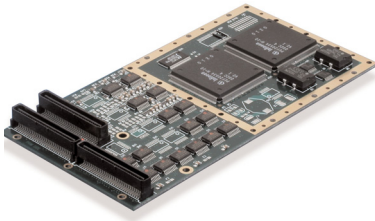

Simplified Block Diagram of HSS-PMC-CC Card

The HSS-PMC-CC card supports a wide selection of physical interfaces, configurable by software. Ports can be individually selected as RS-232 or RS-422/RS-485 without any hardware reconfiguration. Handshaking signal pairs for each port are also available.

In addition to the standard 14.7456 MHz oscillator, a user-defined oscillator can be installed at the time of manufacture for custom baud rate generation. Interrupts are fully supported for each port. Interrupts sources include transmission error, reception error, completions of transmit packets and completions of receive packets.

In the block diagram shown above, a PCI bridge interfaces the PMC PCI bus to the HSS-PMC-CC card. A high performance Siemens/Infineon PEF20534 Serial Communications Controller is responsible for managing four serial I/O ports. Each port can support multiple protocols and uses Maxim's Multi-protocol Transceivers (MAX3160) and analog switches for various termination options.

HSS-PMC-CC

Configurations

Specifications

Model Number	Configuration
HSS-PMC-CC04	4 Ports High Speed Serial to PMC, Conduction Cooled
HSS-PMC-CC08	8 Ports High Speed Serial to PMC, Conduction Cooled

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 (Infineon) PEF 20534, one for each group of 4 ports

Number of Serial Ports
- Four or eight

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

Physical Levels Supported
- RS-232, RS-422/485

Protocols Supported
- Asynchronous UART, HDLC, SDLC

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

RS-422/485 Signals Supported
- TxD$\pm$, RxD$\pm$, TxC$\pm$, RxC$\pm$, CTS$\pm$, RTS$\pm$ - Optional

FIFOs per DSCC4
- Local Receive: 17 x 32-bit, per port
- Local Transmit: 8 x 32-bit, per port
- Central Receive: 128 x 32-bit
- Central Transmit: 128 x 32-bit

On-board Oscillator
- 14.7456 MHz to support standard asynchronous baud rate
- User-defined oscillator is available for custom baud rate generation

DMA Controllers
- Four ports per DSCC4

Rear-Panel I/O
- Via PMC P4

Discrete I/O
- Four or eight outputs

Power Requirements
- +5.0 VDC (typical 8 ports estimated):
  860 mA operating EIA-485 mode
  640 mA operating EIA-422 mode
  430 mA operating EIA-232 mode

Temperature
- Operating: -40° to 85° C
- Storage: -55 to +105°C

Humidity
- 5% to 95%, non-condensing

Weight
- Approximately 68.0 g (0.15 lb.) (Four and Eight Port Versions)

Vibration
- 5 - 2000 Hz, 14 g maximum force

Dimensions
- 74.0 mm x 149.0 mm

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