SILVERTIP

FEATURES

- One ADSP-2106x SHARC® processor running at 40 MHz
- Industry-standard PC/104 interface and form-factor
- Supports standalone operation
- Watchdog timer
- Compatible with EZ-ICE® in-circuit emulators
- Complete development tools available

SILVERTIP SINGLE PROCESSOR ADSP-2106X PC/104 BOARD

SHARC Power in PC/104 Package

The Silvertip packs the high-performance floating-point power of the Analog Devices ADSP-2016x SHARC processor into the compact but versatile PC/104 package. The standard size board is configured with a 40 MHz SHARC processor that can operate with a PC/104 host computer or standalone with its on-board boot FLASH. An expansion connector extends a portion of the SHARC processor bus to additional I/O or memory devices.

PC/104 Interface

The PC/104 bus interface gives host computers direct access to the SHARC processor's IOP registers and DMA-driven host port, allowing the host to reset and boot the SHARC, load program images, and examine memory. Read and write access to the SHARC's internal SRAM can occur while the SHARC's DSP core is operating without affecting the core's performance.

Mini-Bus Expansion Connector

The mini-bus expansion connector extends a subset of the SHARC's external processor bus for 32-bit access to memory-mapped devices. It also has two full-duplex synchronous programmable serial ports, a single bi-directional SHARC link port, processor flag I/O signals, and SHARC IRQ inputs.

Available Development Tools

The Silvertip is fully compatible with Analog Devices' software development tools as well as with BittWare's DSP21k Toolkit. It also supports in-circuit emulation with Analog Devices' EZ-ICE emulator.

SPECIFICATIONS

SYSTEM

Processor
- One 40 MHz Analog Devices ADSP-2106x SHARC DSP

Link Ports
- One 40 MB/s link port dedicated to the Mini-Bus connector

Serial Ports
- Two 40 Mb/s synchronous serial ports dedicated to the Mini-Bus connector

PC/104 Interface
- 16-bit access to the SHARC's 32-bit-wide IOP registers
- Supports hardware interrupts in both directions (PC/104 IRQ is software selectable)
- Supports host-based booting of SHARC
- Provides access to all four processor FLAG signals

Mini-Bus Interface
- Provides ability to add modules for I/O or memory that can be directly accessed by the SHARC
- 96-pin connector contains 22-bit address and 32-bit data bus, two flags, two IRQ inputs, two serial ports, and a link port

Debug Port
- 14-pin IDC header for IEEE JTAG 1149.1 boundary scan with extensions for in-circuit emulation
- Supports Analog Devices' EZ-ICE emulator

Power
- 5 V @ 800 mA typical, 1.2 A max

Size
- 3.775" × 3.55" (PC/104 compatible)

ADSP-2106x SHARC PROCESSOR

Processing Rate
- 40 MHz, 25 ns instruction rate, 120 MFLOPS, 40 MIPS

Arithmetic
- 32/40-bit floating point, 32-bit integer

On-Chip Memory
- 2/4 Mbits (21062/21060) dual-ported SRAM organized ×32 or ×48

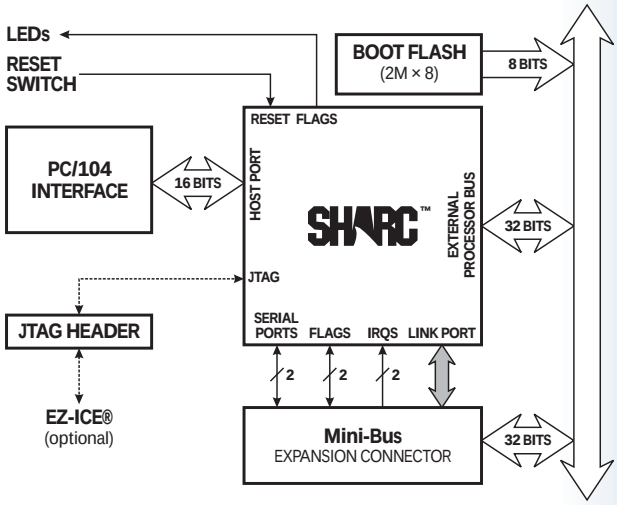
Off-Chip Addressing
- 4 Gigawords addressable memory space
- Memory addressable as 16-, 32-, 40-, or 48-bit words
- Programmable wait-state generation

I/O
- Integrated I/O processor with ten-channel DMA controller, six 40 MB/s link ports, and two 40 Mb/s serial ports

SOFTWARE SUPPORT

Host Interface
- The DSP21k Toolkit for Windows 95 and Windows NT contains a C-callable library of board control and communications routines
- A porting kit is available for other operating system platforms

Development Tools
- Analog Devices' ANSI C compiler, assembler, linker, simulator, and source code debugger



SILVERTIP Single Processor ADSP-2106x PC/104 Board

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