- **Processor - MPC8280 PowerPC of QUICC-II series**
- **Clock Frequency - 396 Mhz**
- **Rear I/O connectivity**
- **SDRAM Memory - Up to 256 MB**
- **User Flash Memory - Up to 64 MB**
- **Boot Flash Memory - Up to 512 KB**
- **Two 10/100 Ethernet interfaces**
- **Three serial UART ports**
- **Ruggedised Version**
- **Linux, VxWorks available**

OVERVIEW

The AT-EMB-SBC is based on Motorola's Processor MPC8280 PowerPC of QUICC-II series. This processor is based on single PCB with required memory like SDRAM with 256MB, 512KB of Boot flash, 64MB of User Flash, up to 396 MHz of clock speed and up to 32KB of DPRAM. The system provides the required interfaces to interface custom modules in the system. The system provides communication bus interfaces like asynchronous communication ports on RS232/422 and two 10/100 Ethernet ports. The AT-EMB-SBC also features a watchdog timer.

Features

Central Processing Unit

The Motorola PowerPC MPC8280 series of processors deliver unmatched computing power with a minimum of power dissipation. This increases the reliability over a wide temperature range. Up to 32KB of instruction and data cache are available.

Memory

SDRAM

The board comes with up to 256 MB of SDRAM unit running at 66 MHz. It is equipped with an Error Checking and Correction (ECC) mechanism providing a high degree of protection against errors. It is capable of detecting and correcting single errors while alerting when multiple errors arise. The ECC mechanism enhances the system reliability to a great extent.

Boot Flash

The AT-VME-SBC comes with 512 KB of Boot Flash memory.

User Flash

The AT-VME-SBC includes 64 MB of User Flash memory that ensures sufficient memory resources for numerous applications.

Timers

Watchdog Timer

The AT-VME-SBC provides an on-board hardware watchdog timer for programming the required time out interval after which it will reset the board.

Power Requirements

The AT-VME-SBC maybe configured to receive all its power from the Rear backplane +5.0V, 3.3V supply and generate 1.5V using the on-board circuitry.

I/O Interfaces

Ethernet Interface

The two Ethernet interface ports support the standard 10 MB/s or fast 100 MB/s Ethernet links. The physical interface is a 10BaseT/100BaseTx twisted pair.

UART Ports

The AT-VME-SBC provides three standard serial UART ports with two configurable RS-232 /422 interfaces and One dedicated RS-232.

AT-EMB-SBC-MPC8280

Customized SBC With MultiProtocol Interface

Digital I/O

The AT-VME-SBC is equipped with 128 TTL/CMOS voltage level digital I/O channels. These I/O lines are available on Rear I/O connector.

Mechanical Format

The AT-EMB-SBC is available in Industrial grade.

PRODUCT SPECIFICATIONS

CPU

- Processor: PowerPC MPC8280
- Clock Frequency: Up to 396 Mhz
- Cache: 32KB of instruction and data cache Memory
- Global Memory: Up to 256 MB SDRAM
- ECC: Standard
- Boot Flash: 512KB
- User Flash: 64 MB

JTAG

- On-board JTAG interface to the processor for debugging and development purposes

I/O Interfaces

- Two 10/100 Mbps Ethernet ports
- Two configurable RS-232 /422 interfaces and One dedicated RS-232
- 128 TTL/CMOS voltage level digital I/O channels

Mechanical

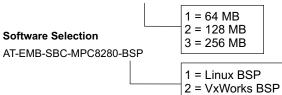- Dimensions- 136mm x 126mm

Weight

- Air-Cooled version- 250 gm

Power

- Derived form +5.0V and 3.3V of backplane
- 1.5V required for powering the on-board processor is generated from on-board power circuitry
- 3.3V alternately derived from VME64x backplane
- Current consumption for 5.0V < 1A
- Current consumption for 3.3V < 3A

ORDERING INFORMATION

Hardware Selection

AT-EMB-SBC-MPC8280-SDRAM

| 1 = 64 MB |
| 2 = 128 MB |
| 3 = 256 MB |

Software Selection

AT-EMB-SBC-MPC8280-BSP

| 1 = Linux BSP |
| 2 = VxWorks BSP |

Test And Diagnostic Software

The AT-VME-SBC comes with a complete bundle of firmware containing the following modules:

> Boot software for initialization
> Diagnostic software tool

Operating Systems Support

The AT-VME-SBC is available with Linux, VxWorks OS.

Test and Diagnostic Software

- Boot software for initialization
- Diagnostic software tool

Operating Systems

- VxWorks (Ver 6.3) Board Support Package (BSP) and drivers
- Linux (Kernel Ver 2.4.x and above) drivers support

Environmental

- Temperature Range:

  Operating: -40ºC to + 85ºC
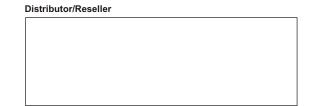 Storage: -45ºC to + 100ºC

Ruggedization

- MIL-STD-810F

Warranty

- 1 year standard warranty period

- Contact sales for support for other Operating Systems
- Contact sales for configuration of front and rear I/O configuration
- Contact sales for environmental options

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