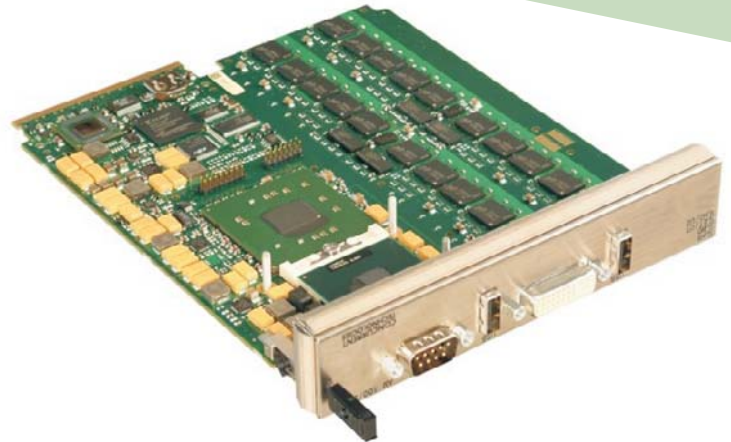


Dual-Core Intel® Xeon® Processor AdvancedMC™ Module



APPLICATIONS

The AM 100/20x is a high performance double-width full height AdvancedMC™ processor module. The module supports the 2.0 GHz Dual-Core Intel® Xeon® processor LV and the 1.66 GHz Dual-Core Intel® Xeon® processor ULV, with an Intel® 3100 server chipset and up to 16 Gbytes soldered DDR2-400 ECC memory. The AM 100/20x is designed in compliance to AMC.0, AMC.1 Type 8 (x8 PCI Express®), AMC.2 Type E2 (2x Gigabit Ethernet) and AMC.3 Type S2 (2x SATA ports). The module also

features SXGA graphics interface (digital & analog), four USB 2.0 ports, two RS232 ports and two additional SATA ports. Supporting full hot swap and IPMI capabilities with a range of industry standard operating systems, the AM 100/20x is designed for use in AdvancedTCA® or MicroTCA™ applications in the telecommunications, scientific, and defense markets. Application examples include media-servers or blade-servers.

HIGHLIGHTS

- Double-width, full height AdvancedMC processor module:
 - compliant to AMC.0
- 2.0 GHz Dual-Core Intel Xeon processor LV or 1.66 GHz Dual-Core Intel Xeon processor ULV:
 - Sossaman Dual-Core
 - 667 MHz front Side Bus
 - 2 Mbytes L2 cache shared between the cores
 - CPU fan not required
- Up to 16 Gbytes of soldered DDR2-400 SDRAM (with ECC)
- Intel 3100 server chipset:
 - up to 3.2 Gbytes/sec peak memory bandwidth
 - integrated memory controller and IO Hub
- 2 Gigabit Ethernet (Serdes type) interfaces:
 - AMC.2 Type E2
- x8 PCI Express fabric port:
 - AMC.1 Type 8
- 4 x USB ports:
 - 2 front and 2 rear
- Four Serial ATA interfaces on rear I/O:
 - AMC.3 Type S2
 - two additional interfaces in connector extended options region
- SXGA DVI-I graphics interface:
 - analog and digital
- 2 x RS232 serial channel interfaces:
 - 1 front and 1 rear
- 1 Mbyte of BIOS Flash EPROM
- Hot swap compliant:
 - compliant to AMC.0
- IPMI (Intelligent Platform Management Interface):
 - IPMI Version 1.5 according to AMC.0
- Watchdog timer and Long Duration Timer
- Support for Linux®, Windows® 2000, Windows® Server 2003, Windows® XP, Windows® XP Embedded and QNX®

Central Processor

- 2.0 GHz Dual-Core Intel® Xeon® LV processor or 1.66 GHz Dual-Core Intel® Xeon® ULV processor:-
 - uses μ FC-PGA 478 (micro Flip-Chip Pin Grid Array) package
 - 667 MHz Front Side Bus (FSB)
 - 2 Mbytes of shared secondary (L2) on-die cache
 - no CPU fan
- utilizes 64-bit Intel® 3100 server chipset:-
 - single chip chipset with integrated memory and I/O controllers
- provision for XDP debug port

DRAM

- supporting up to 16 Gbytes DDR2-400 ECC SDRAM:-
 - up to 16 Gbytes soldered on-board
 - single-bit error correction
 - gives a peak bandwidth of 3.2 Gbytes/s
- accessible from processor and AMC connector

PICMG® AdvancedMC™ Interfaces

- hot swap compliant to AMC.0
- x8 PCI Express® fabric connection:-
 - AMC.1 Type 8
 - transfer rate up to 4 Gbytes/s
 - supported by Enhanced DMA (E-DMA) in the Intel server chipset MCH
 - can be used as two x4 interfaces in dual redundant fabric systems
- rear I/O compliant to AMC.1 specification

Hard Disk Interfaces

- Serial ATA150:-
 - AMC.3 Type S2
 - four channel support via AMC connector
 - transfer rate up to 150 Mbytes/s
- implemented by Intel server chipset

Ethernet Interfaces

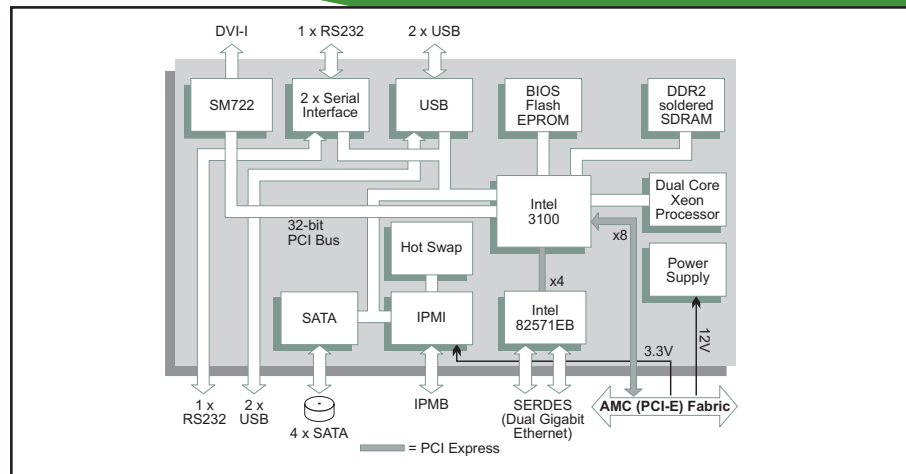
- dual Gigabit Ethernet channels:-
 - AMC.2 Type E2
 - supporting Serdes type 1000BX via AMC connector
- implemented by Intel® 82571EB LAN Controller via x4 PCI Express serial bus

Graphics Interface

- implemented by Silicon Motion SM722 & Silicon Image Sil164 providing:-
 - digital & analog graphics
 - 8 Mbytes video memory
 - resolutions up to 1280 x 1024; supporting up to 16M colors
 - digital & analog SXGA accessed via front panel DVI-I connector

Serial Interfaces

- 2 x RS232 serial channels:-
 - 1 channel via 9-way D-type front panel connector
 - 1 channel via AMC connector
- 16550 compatible UART
- modem control signals supported:-
 - front channel supports RI, CTS, RTS, DSR, DTR and DCD
 - rear channel supports CTS and RTS only



Other Peripheral Interfaces

- PC-compatible Real Time Clock (Year 2000 compliant)
- watchdog timer
- 1 x 32-bit Long Duration Timer with processor interrupt capability
- CPU temperature monitor; voltages monitor:-
 - all accessible via IPMI
- 4 x USB 2.0 (Universal Serial Bus) interfaces:-
 - 2 channels via front panel
 - 2 channels via AMC connector

IPMI

- IPMI Version 1.5 according to AMC.0
- on-board BMC (Baseboard Management Controller)
- supports 8 Kbytes of non-volatile memory

Flash EPROM

- 1 Mbyte of BIOS Flash EPROM - 8-bits wide

Firmware Support

- Phoenix® TrustedCore™ Server
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

Software Support

- support for Linux®, Windows® 2000, Windows® Server 2003, Windows® XP, Windows® XP Embedded and QNX®

Electrical Specification

- +12V@3.3A (typical at 2.0 GHz with 2 Gbytes DRAM); $\pm 2V$
- +3.3V@0.01A; $\pm 5\%$

Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification

- operating temperature:-
 - 0°C to +55°C (N-Series)
- 10% to 90% Relative Humidity, non-condensing (operating)
- 40°C to +85°C (storage)
- 10% to 90% Relative Humidity, non-condensing (storage)

Mechanical Specification

- AMC.0 double-width full-height form-factor: 180.6mm x 148.5mm (7.1 inches x 5.8 inches)

ORDERING INFORMATION

Order Number Product Description (Hardware)

AM 100/201-0y 1.66 GHz Dual-Core Xeon™ Processor, dual-width AMC
 AM 100/202-0y 2.0 GHz Dual-Core Xeon™ Processor, dual-width AMC

Replace the order number suffix (y) with selections from the following:

where y =
 1 - reserved
 2 - 2 Gbytes
 4 - 4 Gbytes
 6 - 8 Gbytes
 9 - 16 Gbytes