MCP6792

PRODUCT DATA SHEET

MCP6792 Processor AMC (PrAMC) Module



Trenton's MCP6792 is a Processor AMC module designed for insertion directly into MicroTCA® (*u*TCA®) backplanes or the AMC slots of an AdvancedTCA® (ATCA®) blade or carrier card. The full- or mid-size front panel configuration of the MCP6792 provides support for a broad array of *u*TCA and ATCA chassis styles and applications. The AMC's Small Form Factor (SFF), dual-core processor options deliver impressive MCP6792 performance. An extended life Intel® Core™ 2 Duo Processor and the Mobile Intel® GS45 Express Chipset are used on the Trenton MCP6792 to enable 4GB of DDR3 memory, multiple PCI Express® links, three Ethernet interfaces and much more.

PROCESSORS:

Intel[®] Core[™] 2 Duo Processor SP9300 - 2.26GHz Intel[®] Core[™] 2 Duo Processor SL9400 - 1.86GHz Intel[®] Core[™] 2 Duo Processor SU9300 - 1.2GHz Processor Package: SFF (22mm x 22mm) BGA The Intel[®] processor options on the MCP6792 support a 1066MHz or 800MHz system bus depending on the choice of processor. All of the processor options support both 64-bit and 32-bit applications. Other processor features:

Dual-Core. low voltage or ultra low voltage processor option

- 6M L2 Cache (Intel[®] Core[™] 2 Duo Processor SL9400 & SP9300)
- 3M L2 Cache (Intel[®] Core[™] 2 Duo Processor SU9300)

CHIPSET:

The Mobile Intel® GS45 Express Chipset enables the card's dual-channel DDR3-1066 memory interface. The AMC's Intel® I/O Controller Hub 9M (ICH9M) provides multiple Gigabit Ethernet LANs, configurable PCI Express links and SATA ports on the MCP6792's card edge. The AMC's chipset implementation also supports the following:

- Trusted Platform Module (TPM)
- Intel® Trusted Execution Technology (Intel® TXT)
- Module Management Controller (MMC)

MODULE MANAGEMENT CONTROLLER (MMC):

The MCP6792's MMC or Module Management Controller supports the Intelligent Platform Management Interface (IPMI) commands for monitoring the following functions:

- Board temperature
- Voltage levels
- Payload Status

Sensor input data and various signal levels are sent to the MMC via the system's Intelligent Platform Management Bus (IPMB). The MMC uses this information to manage monitor functions, provide appropriate output signals and drive the status LEDs on the front on the AMC. These status LEDs indicate Hot Swap Status, Health and Out Of Service conditions. The MMC also manages the interface to the Hot Swap Switch located on the AMC's front panel.

CARD EDGE INTERFACES:

Trenton's MCP6792 Processor AMC (PrAMC) module supplies two 1000Base-BX Ethernet interfaces to the AMC's card edge connector. Other fabric interfaces available on the card edge connector are one x4 and one x1 PCI Express link with a PCI Express reference clock. A MicroTCA backplane or ATCA carrier card may use the x4 PCIe link as four x1 PCIe links resulting in a total of five x1 PCI Express links available for use in a system application with the Trenton MCP6792. The PCI Express links on the card edge connector are user configurable via AMC dip switch settings. Other card edge interfaces include the IPMB for the AMC's Module Management Controller and support for two SATA II 300 ports.

ETHERNET INTERFACES (AMC CARD EDGE CONNECTOR):

The MCP6792 uses an internal x4 PCI Express link from the x16 port of the GS45 GMCH to connect to the dual-port Gigabit Ethemet controller chip. This design feature enables two very fast 1000Base-BX Ethernet interfaces from the AMC's card edge connector to either a MicroTCA backplane or to the AMC carrier card slots on an ATCA blade. The LAN interfaces provided by the MCP6792 are designed to provide robust Ethernet communications in MicroTCA and AdvancedTCA system applications.

TRUSTED PLATFORM MODULE (TPM):

The MCP6792 is compliant with version 1.2 of the Trusted Computing Group specification for Trusted Platform Modules via the use of the Atmel® ATC97SC3203 TPM. The card's TPM and the chipset's Intel® Trusted Execution Technology (Intel® TXT) maximizes the security and integrity of any system design using a Trenton MCP6792 a Processor AMC module.

SERIAL ATA/300 PORTS:

The primary and secondary Serial ATA/300 (i.e. SATA II 300) ports on the MCP6792 are available for use on the AMC's card edge connector.

FRONT PANEL CONFIGURATION OPTIONS:

Single-Width, Full-size (28.95mm) - One 10/100/100Base-T Ethernet, one video, one COMM, two USB 2.0 ports and four diagnostic LEDs Single-Width, Mid-size (18.96mm) - One 10/100/100Base-T Ethernet, one video and one USB 2.0 port

DDR3-1066 MEMORY INTERFACE:

The DDR3-1066 interface is a dual-channel interface originating at the Intel® GS45 Graphics Memory Controller Hub (GMCH), with each channel terminating at an SO-DIMM module socket. The MCP6792 supports system memory transfer rates of either 800 or 1066MHz using unbuffered, non-ECC, PC3-6400 or PC3-8500 SO-DIMMs. The MCP6792's two SO-DIMM sockets support a maximum memory capacity of 4GB.



Dependable, always.

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UNIVERSAL SERIAL BUS INTERFACES (USB 2.0):

Two USB 2.0 interfaces are supported in the full-size front panel configuration of the MCP6792 and one USB port is available in the mid-size front panel.

BIOS (FLASH):

The MCP6792 uses AMIBIOS8[®]. The BIOS resides in the AMC's two SPI flash modules. AMIBIOS8 contains features such as:

- Support for flash devices for BIOS upgrading
- Integrated support for USB mass storage devices such as USB flash drives, DVD-RW, CD-ROM, CD-RW, etc.
- Boot from network, USB mass storage devices or SATA drives
 SATA support includes 48-bit LBA addressing to support SATA hard
- SAIA support includes 40-bit LBA addressing to support SAIA name drives capacities over 137GB

OPTIONAL ON-BOARD STORAGE:

The card supports compact, fast access, local data storage via a plugin USB solid state drive or SSD. The common file access times for these latest generation SSDs frequently outperforms the file access times of many HDDs. These optional solid state drives are available in several different storage densities up to a maximum of 8GB.

AGENCY APPROVALS:

Designed for UL60950, CAN/CSA C22.2 No. 60950-00, EN55022:2006 Class B, EN61000-4-2:2001, EN61000-4-3:2005, EN61000-4-4:2006, EN61000-4-5:2006, EN61000-4-6:2006, EN61000-4-11:2004

Designed for NEBS compliant systems testing.



MCP6792 APPLICATION CONSIDERATIONS:

Power Requirement	s:		
Typical Values -	CPU Idle State:		
CPU Speed	Intel [®] No.	+12V	+3.3V ⁻
2.26GHz	SP9300	1.17A	0.15A
1.86GHz	SL9400	1.09A	0.15A
1.2GHz	SU9300	1.45A	0.15A
Typical Values -	100% CPU Stress S	tate:	
CPU Speed	Intel [®] No.	+12V	+3.3V ⁻
2.26ĠHz	SP9300	2.70A	0.15A
1.86GHz	SL9400	2.08A	0.15A
1.2GHz	SU9300	1.98A	0.15A

Tolerance for all voltages is +/-5%

All processors listed are dual core CPUs

4GB of system memory was installed during power testing *Management Power current draw is typically less than 150mA

Temperature/Environment:

Operating Temperature:	-10° to 55° C.
Storage Temperature:	-20° to 70° C.
Humidity:	5% to 90% non-condensing

Mechanical:

A standard low profile, passive cooling solution is used on the MCP6792 card. This passive heat sink complies with the height and space restrictions defined in various AMC, ATCA and *u*TCA industry specifications. The AMC's overall card dimensions are 7.11" (18.05cm) L x 2.89" (7.34cm) H. The single-width, full-size, front panel height dimension is 1.103" (28.00mm) and the height of the single-width, mid-size front panel is 0.709" (18.00mm).

STANDARDS:

- PCI Express[®] Base Specification 1.1
- PCI Industrial Computer Manufacturers Group (PICMG®)
- AMC.0, R2.0 Specification
- PICMG® AMC.1, R2.0 Specification (PCI Express Implementation)
- PICMG[®] AMC.2 Specification (Ethernet Implementation)
- PICMG[®] AMC.3 Specification (Storage Implementation)
- PICMG[®] MTCA.0, R1.0 Specification (MicroTCA)
- PICMG® 3.0, R3.0 Specification (AdvancedTCA)

ORDERING INFORMATION:

Model Name: MCP6792					
Model #	CPU Speed	Intel [®] No./FSB	Embedded CPI		
Single Width, Full Size Configuration					
6792-005-0G	2.26GHz*	SP9300/1066MHz	Yes		
6792-103-0G	1.86GHz	SL9400/1066MHz	Yes		
6792-201-0G	1.2GHz	SU9300/800MHz	Yes		
Single Width, Mid Size Configuration					
6792-153-06	1.86GHz	SL9400/1066MHz	Yes		
6792-251-0G	1.2GHz	SU9300/800MHz	Yes		
(0G = Memory)					

*2.26GHz CPU option available on full size configuration only

The stated bus speed, memory and communication interface speeds are component maximums; actual system performance may vary. Intel and Intel Core 2 Duo are trademarks or registered trademarks of Intel Corporation. All other product names are trademarks of their respective owners. Copyright ©2009 by TRENTON Technology Inc. All rights reserved



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