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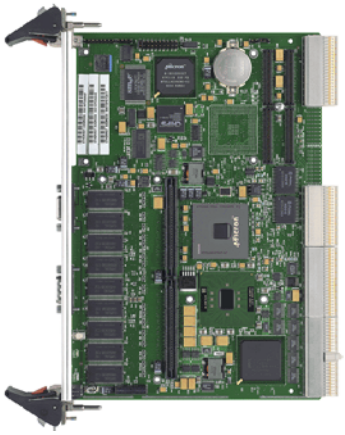
Find the *Emerson / Motorola CPIP5385* at our website: *Click HERE*

Datasheet

5385 Series

CompactPCI Processor Board

MOTOROLA
intelligence everywhere™



Powering the transition to all packet networks

Many of today's CompactPCI® and packet-switched network customers require blades with leading-edge processor performance coupled with a back-end memory system that can feed 1 GHz and faster processors. The 5385 series architecture provides this kind of compute performance and still provides flexibility for additional connectivity options.

The 5385 series also complements Motorola Computer Group's high availability platforms by providing this computing performance for the most demanding applications. Functioning within the CompactPCI environment, it can be customized quickly and easily with a PMC module to create an application-specific network blade.

The flexibility of the 5385 series allows it to be used in a variety of applications such as broadband data or intelligent network switching; CTI servers; industrial control and automation; military and aerospace; and medical, scientific or imaging products.

Compute Core

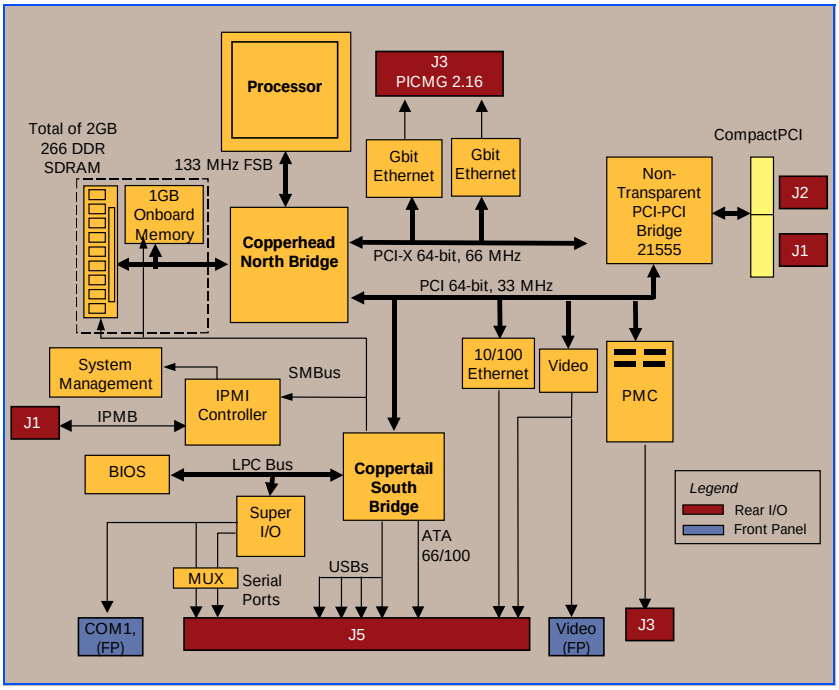
- 1200 MHz Mobile Intel Pentium III processor — M
- Micron Copperhead chipset
- 133 MHz front-side bus
- Up to 2GB of ECC protected DDR SDRAM (266 MHz)

I/O Set and Features

- Dual 10/100/1000BaseTX Ethernet interfaces
- Single 10/100BaseTX Ethernet interface (for maintenance)
- PICMG® 2.16 (CPSB) support
- PICMG 2.9 (IPMI) support
- Four Universal Serial Bus (USB) channels
- Two asynchronous serial ports
- Real-time clock and watchdog timer
- One 32/64-bit PMC expansion slot

Software Compatibility

- Supported by industry-standard operating systems such as Windows 2000, Linux, VxWorks and other leading software products



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5385 SERIES DETAILS

Compute Core

For high-end embedded applications, the 5385 series fully supports the Mobile Intel Pentium III processor — M. The processor is combined with the Micron Copperhead chipset resulting in truly exceptional processing capability. The processor contains 512KB of on-chip Level 2 cache, delivering rapid data access to complex applications. Dynamic execution and dual independent buses are additional performance advantages.

Memory Subsystem

The 5385 series provides up to 2GB of DDR synchronous DRAM. Memory size is automatically detected by the system BIOS. The 5385 series features a base board capable of up to 1024MB DDR SDRAM and can support up to 2GB of DRAM through the installation of a single 1GB memory expansion module.

Ethernet I/O

Two Gigabit Ethernet controllers sit on a dedicated high-speed internal bus and provide redundant Ethernet ports for increased bandwidth in I/O applications such as monitoring or redundant pathing in telecom applications, and connect via the PICMG 2.16 network.

An additional 10/100 Ethernet controller can be used as a diagnostic interface, allowing remote monitoring of system status (for example, voltage, temperature) and is available via the rear transition module.

Hot Swap Compatible

The 5385 series can be inserted or removed in a powered system.

On-Board Peripherals

The 5385 series has an extensive array of I/O options available from both the front panel and/or the rear via a transition module or backplane network. The front panel includes a serial port, video connector and PMC slot. Ethernet, IDE, serial, and USB connectivity is available on the rear of the module.

CompactPCI Bus

Designed to the CompactPCI interface standard, the CPN5385 supports a 64-bit PCI interface on the J1 and J2 physical CompactPCI connectors. On-card devices connect directly to the local bus. Off-card CompactPCI bus accesses are supported through a non-transparent bridge.

Accelerated Graphics

A 69030 HiQVideo accelerator with 4MB integrated memory provides eye-opening 2D accelerated graphics performance for human-machine interfaces and imaging applications. Resolutions up to 1600 x 1200 are supported.

Standards Compliance

The 5385 series is compliant with the following standards and specifications:

- PICMG 2.1 Hot Swap Specification
- PICMG 2.16 (CPSB) support
- PICMG 2.9 (IPMI) support
- VITA 32

SPECIFICATIONS

Processor

1200 MHz Mobile Intel Pentium III processor — M (FCBGA)

Cache

Level 1: 16/16KB instruction/data
Level 2: 512KB

Memory

Capacity: Up to 2GB
DRAM: 266 MHz DDR SDRAM, parity or ECC mode

Addressing

Real and protected (36-bit) addressing supported

Data Path

64-bit CPU/PCI bus

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CompactPCI Interface

Compliance:	PCI Specification Rev. 2.1
Connectors:	J1/J2
Address/Data Lines:	64
PCI Bus Clock:	33/66 MHz
Controller:	Intel 21555 PCI-to-PCI interface bridge chip
Signaling:	5V or 3.3V compliant

IEEE 1386.1 PCI Mezzanine Interface

Address/Data Lines:	64
PCI Bus Clock:	33 MHz
Signaling:	3.3V
Power:	+3.3V, +5V, ±12V; 7.5 watts maximum
Module Type:	One single-wide, front panel I/O or J3 I/O

Clock/Calendar

Real-time clock with (replaceable) battery backup; includes CMOS

Interrupts

Four CompactPCI level-sensitive interrupts, configurable to any interrupt vector for Plug-and-Play compatibility.
Note: All ISA on-card interrupts are Plug-and-Play compliant.

Ethernet

Controllers:	Two Intel 82544; one Intel 82559
PCI Local Bus DMA:	Yes, with PCI burst
Connectors:	CPIP5385: One RJ-45 connector provided on the TM for rear I/O access CPN5385: Three RJ-45 connectors provided on the TM for rear I/O access

Graphics

Controller:	CHIPS 69030 2D accelerated video
Video Memory:	4MB on-chip SDRAM
Resolution:	1600 x 1200 max.

Front Panel I/O Interfaces

PMC:	One knockout to accommodate PMC I/O
Serial Port:	One DB-9
Video:	One 15-pin D-sub

Note: Additional devices may be attached via transition module.

BIOS Features

- BIOS in Flash EPROM
- Auto-configuration or extended setup with serial/parallel ports remappable
- Diskless, keyboardless and videoless operation extensions
- BIOS POST and Setup
- System and video BIOS shadowing
- Network boot using PXE (Preboot eXecution Environment)
- CMOS backup to Flash (allows operation without battery)

Supervisory

Watchdog Timer:	Two-level, software programmable (0.46 sec. to 477 sec.); drives interrupt, NMI/system reset or soft reset
Alarm Microcontroller (NS LM81):	CPU temperature (user-definable threshold alarm on selectable IRQ: 5, 7, 9, 11, NMI or SCI), backplane, and CPU voltages
Reset Switch:	Guarded, on front panel
Front panel LEDs:	Power OK (green), Hot Swap (blue)

Mechanical

6U, 4HP wide (233 mm x 160 mm x 20 mm), conforms to PICMG 2.0 CompactPCI (r.ev. 2.1) and PCI SIG 2.1 specifications (based on model selected).

Power Requirements

(including transition module)

	CPIP5385	CPN5385
+5V:	4.2 A typ., 4.9 A max.	4.2 A typ., 4.9 A max.
+3.3V:	1.7 A typ., 2.0 A max.	2.5 A typ., 2.8 A max.

((including transition module and 512MB memory mezzanine)

	CPIP5385	CPN5385
+5V:	4.6 A typ., 5.2 A max.	4.6 A typ., 5.3 A max.
+3.3V:	1.7 A typ., 2.0 A max.	2.5 A typ., 2.9 A max.

Target MTBF

(based on a sample of eight boards in accelerated stress environment; results pending)

Mean:	190,509 hours
95% Confidence:	107,681 hours

Environmental

	Operating	Storage/Transit
Temperature:	0° C to 55° C	–40° C to +70° C
Humidity (NC):	5 to 90%	5 to 95%
Vibration:	0.5 G RMS 20–2000 Hz random	6 Gs RMS 20–2000 Hz random

Electromagnetic Compatibility (EMC)

Intended for use in systems meeting the following regulations:

U.S.:	FCC Part 15, Subpart B, Class A (non-residential)
Canada:	ICES-003, Class A (non-residential)

Motorola Computer Group board products are tested in a representative system to the following standards, results pending:

CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN55024

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ORDERING INFORMATION

Part Number	Description
CPIP5385-01	1200 MHz Pentium III processor — M, 512MB DRAM memory, one PMC slot, IPMI
CPIP5385-02	1200 MHz Pentium III processor — M, 1024MB DRAM memory, one PMC slot, IPMI
CPN5385-01	1200 MHz Pentium III processor — M, 512MB DRAM memory, one PMC slot
CPN5385-02	1200 MHz Pentium III processor — M, 1024MB DRAM memory, one PMC slot
Memory Modules	
CPMEZZ85-512	512MB DRAM memory module
CPMEZZ85-1024	1024MB DRAM memory module
Transition Modules	
CPTM85	Transition module for the CPIP5385: four USB ports, video, COM1, COM2, 10/100 Ethernet, CompactFlash socket (Type II)
CPTM85-02	Transition module for the CPN5385: four USB ports, video, COM1, COM2, 10/100 Ethernet, two Gbit RJ-45 Ethernet connectors, CompactFlash socket (Type II)
Documentation	
CPIP5385A/IH	CPN/CPIP5385 Installation and Use Manual
CPIP5385A/PG	CPN/CPIP5385 Programmer's Reference Guide
Once complete, documentation will be available for online viewing and ordering at http://www.motorola.com/computer/literature	

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