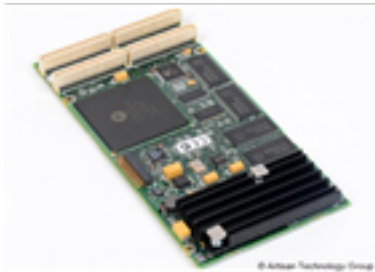


Motorola PPMC750-1141

Processor PCI Mezzanine Card



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PrPMC750

Processor PCI Mezzanine Card



Processing Core Design

- ◆ PowerPC™ 750 microprocessor
- ◆ Power Plus II architecture

Memory Subsystem

- ◆ 1MB of L2 cache
- ◆ Up to 128MB ECC SDRAM
- ◆ Memory expansion modules up to 768MB
- ◆ 8MB on-board Flash; up to 64MB on carrier
- ◆ 144-bit ECC memory controller ASIC

Interface Features

- ◆ Single-wide PMC with a 33 MHz PCI interface
- ◆ 64-bit PCI host bridge
- ◆ One async serial port

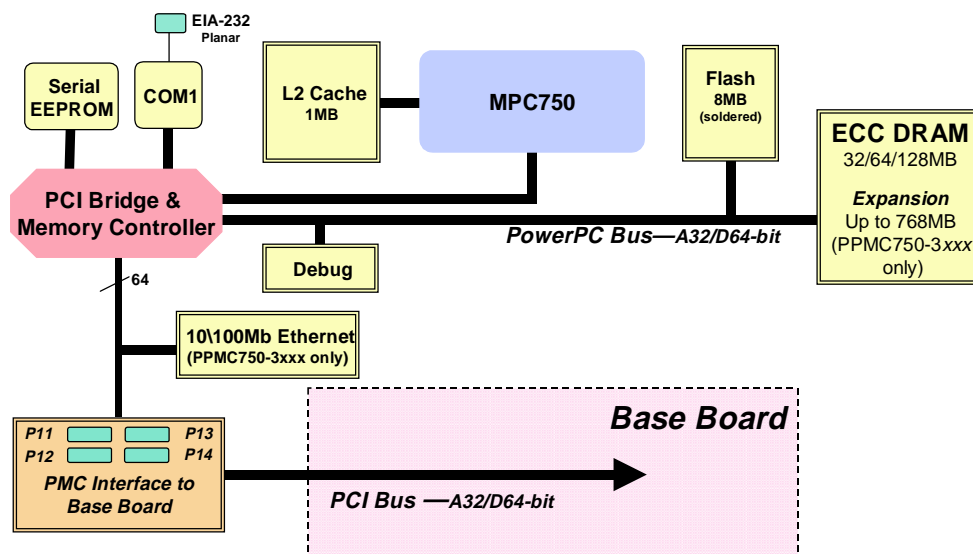
Other Features

- ◆ Four 32-bit timers
- ◆ Two watchdog timers

An ideal solution for those looking for flexibility and quick performance tuning

The PrPMC750 processor PCI mezzanine card (PrPMC) is the ideal solution when time-to-market is important. The PrPMC750, a new breed of macro-components, is a single-wide PMC with a 33 MHz PCI interface. As a complete processor/memory subsystem, it handles the complexity of 300+ MHz architectures. The compact, standards-based form factor offers flexibility and simplified performance tuning while preserving base design investment. If additional performance is required, processor PMCs can be added, creating a loosely-coupled multiprocessing architecture.

The PrPMC750 features a 32-bit PowerPC™ 750 microprocessor and Motorola PowerPlus II architecture with integrated 64-bit PCI host bridge and 144-bit ECC memory controller ASIC. The Pn4 I/O connector supports Flash expansion and debug features including JTAG/COP and a serial port. Models for debug (PPMC750-2xxx) and tall modules with memory expansion (PPMC750-3xxx) are also available.



Specifications

Processor

Microprocessor:	MPC750	MPC750
Clock Frequency:	233 MHz	350 MHz
On-chip Cache (I/D):	32KB/32KB	32KB/32KB

Memory

ECC Protected Main Memory:	PC100 SDRAM
On-board Capacity:	Up to 128MB
Memory Expansion (optional):	Up to 768MB
Single Cycle Accesses:	10 read/5 write
Read Burst Mode:	7-1-1-1 idle; 2-1-1-1 aligned page hit
Write Burst Mode:	4-1-1-1 idle; 2-1-1-1 aligned page hit
Architecture:	64-bit, single interleave
L2 Cache:	1MB
Cache Bus Clock Frequency:	116.67 MHz (233 MHz processor), 140 MHz (350 MHz processor)
User I ² C Serial EEPROM:	256 bytes
EEPROM/Flash:	8MB surface mount (on-board programmable), 64MB on carrier (optional)
Read Access:	262 clocks (8-byte burst)

Asynchronous Serial Port

Controller:	16C550
Number of Ports:	One
Configuration:	EIA-574 DTE
Async Baud Rate, bps max.:	38.4K EIA-232, 115Kbps raw

Counters/Timers

Real-Time Timers/Counters:	Four 32-bit programmable
Watchdog Timers:	Two, time-out generates interrupt or reset

Miscellaneous

Reset, Abort, and JTAG/COP via on-board debug connector
Two planar LEDs for Fail, CPU

IEEE P1386.1 Interface

Address/Data:	A32/D32/D64, PMC PN1, PN2, PN3, PN4 connectors
PCI Bus Clock:	33 MHz
Signaling:	3.3V output; VIO input
Power:	+3.3V, +5V
Height:	13.5 mm from top of carrier board (one slot); 18.8 mm with memory expansion
Module Type:	74 mm x 149 mm (single-wide)

Power Requirements

	+ 3.3V ± 5%	+ 5V ± 5%
PPMC750-12xx:	1.0 A typical, 1.5 A max.	1.0 A typical, 1.5 A max.
VIO:	PCI buffer diode clamping voltage	

Demonstrated MTBF

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

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

Environmental

	Operating	Nonoperating
Temperature:	0° C to +55° C, forced air cooling	-40° C to +85° C
Altitude:	5,000 m	15,000 m
Humidity (NC):	10% to 90%	10% to 90%
Vibration:	1 G RMS, 20-2000 Hz random	6 Gs RMS, 20-2000 Hz random

Safety

All printed wiring boards (PWBs) are manufactured with a flammability rating of 94V-0 by UL recognized manufacturers.

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)

This product was tested in a representative system to the following standards:

CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions:

EN55022 Class A; Immunity: EN55024

Ordering Information

Part Number	Description
The PrPMC750 includes 1MB backside L2 cache and 8MB Flash, and is available in the following processor/memory configurations:	
PPMC750-1131	233 MHz MPC750, 32MB ECC
PPMC750-1141	233 MHz MPC750, 64MB ECC
PPMC750-1231	350 MHz MPC750, 32MB ECC
PPMC750-1241	350 MHz MPC750, 64MB ECC
PPMC750-1251	350 MHz MPC750, 128MB ECC
PPMC750-2141	233 MHz MPC750, 64MB ECC; 1.5 wide with 10/100 Ethernet and debug connector
PPMC750-2251	350 MHz MPC750, 128MB ECC; 1.5 wide with 10/100 Ethernet and debug connector
PPMC750-3251	350 MHz MPC750, 128MB ECC, memory expansion connector
Memory Expansion	
(for PPMC750-2xxx and PPMC750-3xxx only)	
RAM400-003	32MB memory expansion
RAM400-004	64MB memory expansion
RAM400-005	128MB memory expansion
RAM400-006	256MB memory expansion
RAM400-007	512MB memory expansion
RAM400-008	768MB memory expansion
Related Products	
PRPMC-SYS-xxxx	1U ATX-like processor PMC system with four PMC I/O sites, a Monarch PrPMC800-1259 PMC module, power supply, and 128MB ECC memory
PRPMC-CARR-xxxx	Fully configured product with a Monarch PrPMC800 PMC module and four non-Monarch PMC sites, up to 256MB ECC memory, 1MB Flash and Ethernet
PPMCBASE-xxx	Compact peripheral master carrier including one monarch and one I/O target site
Documentation	
PPMC750A/IH:	PrPMC750 Installation and Use manual
PPMC750A/PG:	PrPMC750 Programmer's Reference Guide
Documentation is available for on-line viewing and ordering at http://www.motorola.com/computer/literature .	



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