

# MPC5200B: 32-bit Embedded PowerPC® Processor

## Overview

Freescale's highly integrated, extremely flexible and cost-effective MPC5200B provides an outstanding solution for automotive, consumer, industrial, media and networking applications. This single chip, based on the PowerPC® embedded processor with a double precision floating point unit (FPU), delivers up to 760 MIPS. The device comes with flexible input/output (I/O) choices and a hardware memory management unit (MMU) for fast task switching, plus an integrated double data rate (DDR2) memory controller, ideal for fast data movement. The MPC5200B is available for use in various markets including telematics, navigation, image/pattern recognition, juke box audio, network media gateway, set-top box, industrial robotics, healthcare monitoring and many others.

The MPC5200B is designed for ease of use and adds value to your product with the mobileGT™ alliance—bringing together real-time operating system (RTOS) vendors, software providers (for example, compressed audio, speech recognition and processing, graphics, etc.), system integrators, hardware suppliers and board support packages (BSPs).

## MPC5200B 32-bit PowerPC® Product Highlights

- > 400 MHz, 760 MIPS
- > PowerPC 603e® processor core with double precision FPU and hardware MMU, superscalar architecture
- > On-chip BestComm Intelligent direct memory access (DMA) control offloads the core from routine I/O tasks
- > Supports Peripheral Component Interconnect (PCI), ATA/IDE, and ROM/RAM/Flash interfaces
- > 133 MHz SDR and 266 MHz (effective) DDR memory controller
- > Dual CAN 2.0
- > J1850 Class B
- > I²S, serial peripheral interface (SPI)
- > 10/100 Base-T Ethernet
- > USB 1.1 Master with OHCI support
- > Two inter-integrated circuits (I²Cs) (to 520 Kbps)
- > ATA Version 4 (supports Ultra33)
- > Up to eight programmable chip selects
- > Interrupt controller
- > Watchdog timer, bus monitor
- > Real-time clock
- > Power management features
- > JTAG test access port
- > Common on-chip processor (COP) debug port
- > On-chip Phase-Lock Loop (PLL) and clock generation



**Tools**

**Lite5200B Evaluation Board**

> Includes the 400 MHz MPC5200B

> Makes Ethernet, USB, PCI, ATA, serial interfaces, CAN and GPIO with complete DDR SDRAM and Flash memory support available

**Media5200 Application Development Platform for the MPC5200B**

> Contains a wide variety of integrated I/O with audio, graphics (based on Fujitsu® Coral-P), microphone inputs and more—all in a 1 DIN size

**Physical Characteristics**

> 1.5V internal, 3.3V external, (2.5V for DDR interface)

> Both automotive/industrial (-40° to +105°C) and commercial (0 to +70°C) temperature ranges

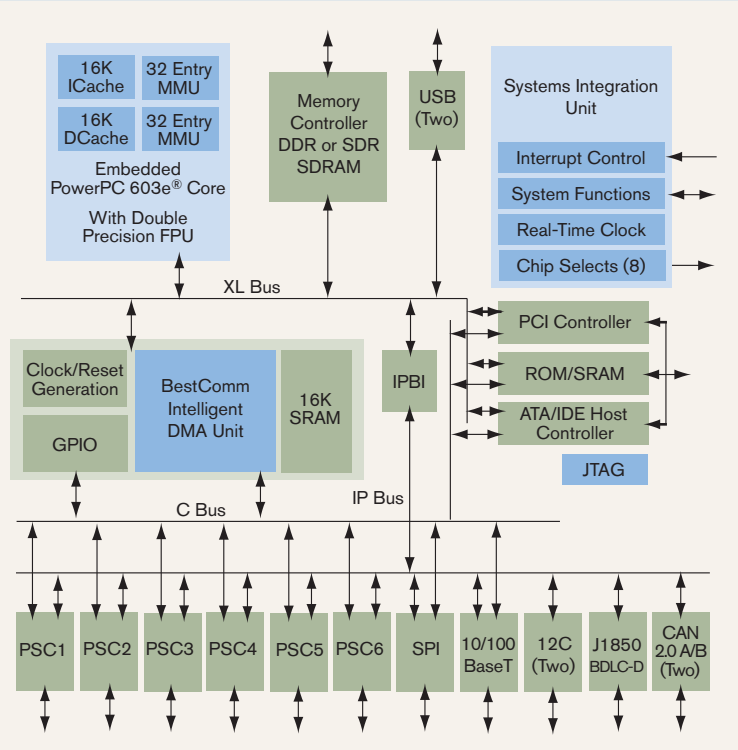
> 272 ball plastic ball grid array (PBGA)

**For Technical and Ordering Information**

Please visit us at:

[www.freescale.com/webapp/sps/site/overview.jsp?nodeId=02Wcbfwp3h9091](http://www.freescale.com/webapp/sps/site/overview.jsp?nodeId=02Wcbfwp3h9091)

**MPC5200B BLOCK DIAGRAM**



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