

Product Brief

760 MIPS MPC5200 LITE5200™ EVALUATION BOARD

OVERVIEW

The Lite5200™ Evaluation Board (EVB) is a compact subset of the Total5200™ Development Platform for the evaluation and creation of systems based on the high performance, low-power, low-cost 400 MHz MPC5200 embedded processor containing a PowerPC® core. Gateways, industrial controllers, instrumentation systems, video and data interpretation systems, telematics devices, hands-free phone modules, and other applications with or without automotive network connectivity or cellular/wireless interfaces are just a sample of target systems it may be used to develop. The board makes the Ethernet, USB, PCI, ATA, serial, CAN, and GPIO resources of the MPC5200 readily available with complete SDRAM and Flash memory support. The I²C, I²S, SPI, J1850, AC97, and secondary port facilities, as well as all other resources of the MPC5200, are all accessible via an on-board connector and user-supplied transceivers. Various combinations of I/O may be traded off, depending on the user's specific needs since nearly all pins of the MPC5200 are re-programmable. Comprehensive schematics are included with the Lite5200 EVB.

RTOS support from ARC™ Precise/MQX™, Green Hills® INTEGRITY®, Metrowerks® Linux®, Metrowerks® OSEKturbo®, MontaVista® Linux®, QNX® Neutrino®, Wind River® VxWorks®, and others is available now.



Freescale Semiconductor, Inc.

SINGLE-CHIP, COST EFFECTIVE, HIGHLY INTEGRATED 32-BIT POWERPC PROCESSOR WITH FPU

- 400 MHz, Low-Power MPC5200 high-performance Embedded PowerPC Device
- 603e PowerPC processor core with Double Precision Floating Point Unit, crucial for data processing, voice recognition/ AEC, video processing, GPS, and other math-intensive applications
- 760 Dhrystone 2.1 MIPS for plenty of application headroom and upgradeability
- MPC5200 processor operates at just one watt at 400 MHz in typical applications
- PCI, Dual CAN, J1850, I²C, I²S, Serial, USB, SPI, AC97, COP/JTAG, and memory controller *on chip* for easy expansion
- On-chip BestComm DMA I/O control offers low processor core I/O management overhead
- -40 to +85C Automotive Qualified, QS9000 Certified for production readiness confidence
- Long-term availability due to commitment to automotive market

ADDITIONAL USER ACCESSIBLE I/O VIA ON-BOARD CONNECTOR

- AC97: user-supplied transceiver
- PSC2 and PSC3 via connector and user-supplied transceivers
- Second master USB: user-supplied transceiver
- I²C extension

MEMORY

- 64 Mbytes SDR SDRAM
- 16 Mbytes Flash

POWER REQUIREMENTS

- Single 5V @ 4A brick-type wall unit (AC/DC converter) supplied
- All required voltages derived from single 5V source (on-board 3.3V and 1.5V DC/DC conversion)

AVAILABLE DEBUG INTERFACES

- Abatron AG-BDM/JTAG www.abatron.ch
- Green Hills SlingShot® www.ghs.com
- Lauterbach Datentechnik GmbH www.lauterbach.com
- Metrowerks WireTap and PowerTap www.metrowerks.com

DIMENSIONS

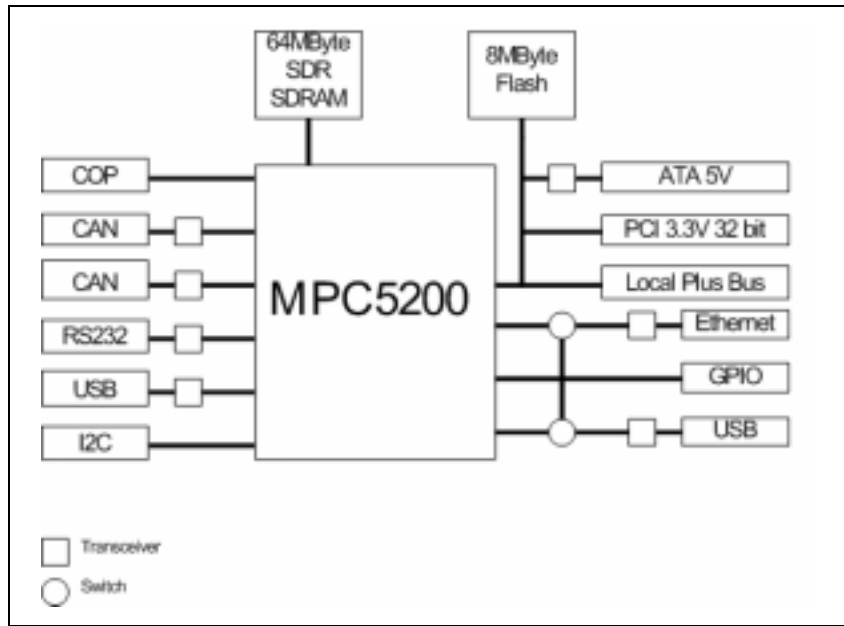
- Board: 160mm x 133mm x 37mm

COMPREHENSIVE ON-CHIP I/O IMPLEMENTED ON-BOARD WITH TRANSCEIVERS AND CONNECTORS

- Peripheral Serial Controller (PSC1) with transceiver
- Single USB 1.1 (master-only compatibility)
- Dual CAN 2.0A/B (high speed, standard and extended frames, programmable bit rate to 1 Mbps); two high-speed transceivers supplied
- Ethernet 10/100 BaseT
- I²C (to 520 Kbps) for E²PROM (also available on two connectors)
- Version 4 5V ATA (compact Flash with true IDE mode); supports Ultra33
- PCI Interface with standard PC-type connector
- Multiple, reconfigurable GPIO
 - Available GPIO dependent on use of interrupts and timers
 - Nearly all MPC5200 pins may be reconfigured as GPIO with a minimum of 12 pins available
- COP/JTAG debug port
- Debug LEDs

**For More Information On This Product,
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**MPC5200 Lite5200
Development Board
Block Diagram**



PROTOCOL	PHYSICAL CONNECTOR
Ethernet (10/100 BaseT)	RJ-45 port
Universal Serial Bus (USB)	USB connector
Controller Area Network (CAN)	2 x 10-pin (5x2) PCB header (2)
Universal Asynchronous Receive/Transmit (UART)	RS-232 DB-9 male connector
General Purpose Input/Output (GPIO)	Multiple PCB headers
Advanced Technology Attachment (ATA)	40-pin ATA connector
Peripheral Component Interconnect (PCI)	PCI bus connector
JTAG/COP	16-pin (8x2) PCB header
I ² C	4-pin (4x1) PCB header (2)

ORDERING INFORMATION FOR LITE5200 KIT

Order the Lite5200 EVB with evaluation software directly from your distributor.

- Part Number CWMPCEVB5200 \$995
- Access for ordering Information: <http://www.metrowerks.com>
- Access for additional MPC5200 Information: <http://e-www.motorola.com> or <http://www.mobilegt.com/>
- Access for additional ARC Precise/MQX Information: <http://www.arc.com/>
- Access for additional Green Hills INTEGRITY Information: <http://www.ghs.com/>
- Access for additional MontaVista Linux Information: <http://www.mvista.com/>
- Access for additional QNX Information: <http://www.qnx.com/>
- Access for additional Wind River VxWorks Information: <http://www.windriver.com/>

OTHER DOCUMENTATION

- Lite5200 Kit Product Brief: CWMPCEVB5200PB
- Total5200 Development Platform Product Brief: TLT5200DEVFPB/D
- mobileGT Total5200 SDP Product Brief: MOBILEGT5200PB/D
- MPC5200 Technical Summary: MPC5200TS/D

Motorola's SPS General Customer Technical Call Number: 1-800-521-6274

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