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The tradition of industry-leading innovation continues in the PowerQUICC II products based on the more powerful 603e core, which is built on Power Architecture technology, and optimized for embedded applications and higher performance 130 nm process technology for core frequencies reaching up to 450 MHz. In 1998, Freescale introduced the MPC8260—the first PowerQUICC II designed to support high-speed networking technologies such as asynchronous transmission mode (ATM), Fast Ethernet and digital subscriber line (DSL) and PCI. The family of PowerQUICC II products is more advanced with higher integration than its predecessors from the PowerQUICC I Family and was developed for telecommunications and networking markets.

The PowerQUICC II processors offer a huge leap not only in performance, but also in on-chip integration. With its Power Architecture processing core, complete RISC communications processor, numerous

high-speed serial communications channels, dual external bus support, a flexible 12-bank memory controller and myriad system integration features, the PowerQUICC II products are the very definition of “system on a chip.” The benefits of this integration for companies building PowerQUICC-based communications and networking equipment are numerous: they include lower development and product costs, faster time to market and, with less time needed to assemble hardware systems, more time to create unique, product-differentiating software. System designers will further benefit from a complete array of software and hardware development tools—such as development systems and in-circuit emulators—provided by Freescale and third parties.

The PowerQUICC II MPC82XX devices include the MPC8247, MPC8248, MPC8250, MPC8255, MPC8260, MPC8264, MPC8265, MPC8266, MPC8270, MPC8271, MPC8272, MPC8275 and MPC8280.

MPC8XX PowerQUICC I Family Technical Specifications

- > Embedded 8XX core built on Power Architecture technology
- > Up to 133 MHz performance
- > Up to 176 MIPS (million instructions per second)
- > 8 KB dual port RAM
- > Up to 16 KB instruction cache
- > Up to 8 KB data cache
- > Communication Processor Module (CPM) with DSP processing, communication processing and 20 serial direct memory access (DMA) channels and two independent DMA channels
- > Up to four serial communication controllers (SCC)
- > I²C
- > Up to two serial management controllers (SMC)

Additional Technical Specifications (selected parts)

- > Up to 2 Fast 10/100 Ethernet ports
- > ATM support (UTOPIA)
- > Up to 64-channel high-level data link control support (HDLC)
- > 2 USB 2.0 (Full/Low Speed)
- > PCMCIA controller
- > On-chip security engine
- > 256-pin MAPBGA, 256-pin PBGA and 357-pin PBGA packaging

Communication Processing Applications

- > SOHO and enterprise routers
- > Wireless local area network (WLAN)
- > Home networking equipment
- > Factory automation

MPC82XX PowerQUICC I Family Technical Specifications

- > Embedded 603e or G2 core built on Power Architecture technology
- > Up to 450 MHz performance
- > Up to 855 MIPS (million instructions per second)
- > Up to 64 KB dual port RAM
- > 16 KB instruction cache/16 KB data cache
- > CPM
- > Up to four SCCs
- > Up to three fast communication controllers (FCC)
- > PCI interface
- > Up to three 10/100 Ethernet ports
- > Up to two SMCs

Additional Technical Specifications (selected parts)

- > USB
- > ATM support
- > I²C
- > Up to 256-channel HDLC
- > On-chip security engine
- > 480-pin TBGA and 516-pin PBGA

Communication Processing Applications

- > Residential gateways
- > Voice-over-Internet Protocol (VoIP) systems
- > Telecom switching equipment
- > Cellular base stations
- > DSLAMs

Features

- > MPC885
 - 133 MHz CPU/CPM
 - 80 MHz External Bus
 - ATM, 2X10/100, Security, USB
- > MPC866
 - 133 MHz CPU/CPM
 - 66 MHz External Bus
 - ATM Enhancements
- > MPC862
 - 100 MHz CPU/CPM
 - 66 MHz External Bus
 - ATM Enhancements
- > MPC860
 - 80 MHz CPU/CPM
 - 66 MHz External Bus
 - ATM, 10/100, HDLC
- > MPC850
 - 80 MHz CPU/CPM
 - 50 MHz External Bus
 - ATM, 10BaseT, HDLC, USB
- > MPC8280
 - 450 MHz CPU
 - 300 MHz CPM
 - 100 MHz External Bus
 - ATM, 10/100, HDLC, PCI, USB
- > MPC8272
 - 400 MHz CPU
 - 200 MHz CPM
 - 100 MHz External Bus
 - ATM, 10/100, PCI, USB
 - Security
- > MPC8266
 - 300 MHz CPU
 - 208 MHz CPM
 - 83 MHz External Bus
 - ATM, 10/100, HDLC, PCI
- > MPC8260
 - 200 MHz CPU
 - 166 MHz CPM
 - 66 MHz External Bus
 - ATM, 10/100, HDLC

BUILT ON



Learn More: For more information about Freescale products, please visit www.freescale.com.

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