

32-bit Microcontrollers



**PIC32 Microcontroller Family
with USB On-The-Go**

The PIC32 logo features the word 'PIC' in a large, silver, 3D metallic font, followed by '32' in a red, 3D metallic font. A small 'TM' trademark symbol is positioned to the upper right of the '32'. The entire logo is set against a background of red, flowing, liquid-like patterns.

PIC³²™

PIC[®] MCU to the power of 32

www.microchip.com/PIC32

Introducing the **PIC³²** Microcontroller

Building on the heritage of Microchip Technology's world-leading 8- and 16-bit PIC[®] microcontrollers, the PIC³² family delivers 32-bit performance and more memory to solve increasingly complex embedded system design challenges.

More Performance & Memory

Power your RTOS, Touch Screens and Complex Applications

- 80 MHz, 1.5 DMIPS/MHz M4K Core
- 512K Flash with pre-fetch cache
- 32K RAM for data and program execution
- Fast interrupts and context switch

More Cost Effective

Shorten your projects and reuse Hardware, Software and Tools

- Free USB, TCP/IP, graphics and file system source code
- Common Explorer 16 development platform
- \$49.99 starter kit with free C compiler
- Hardware trace for less than \$100

More Compatibility

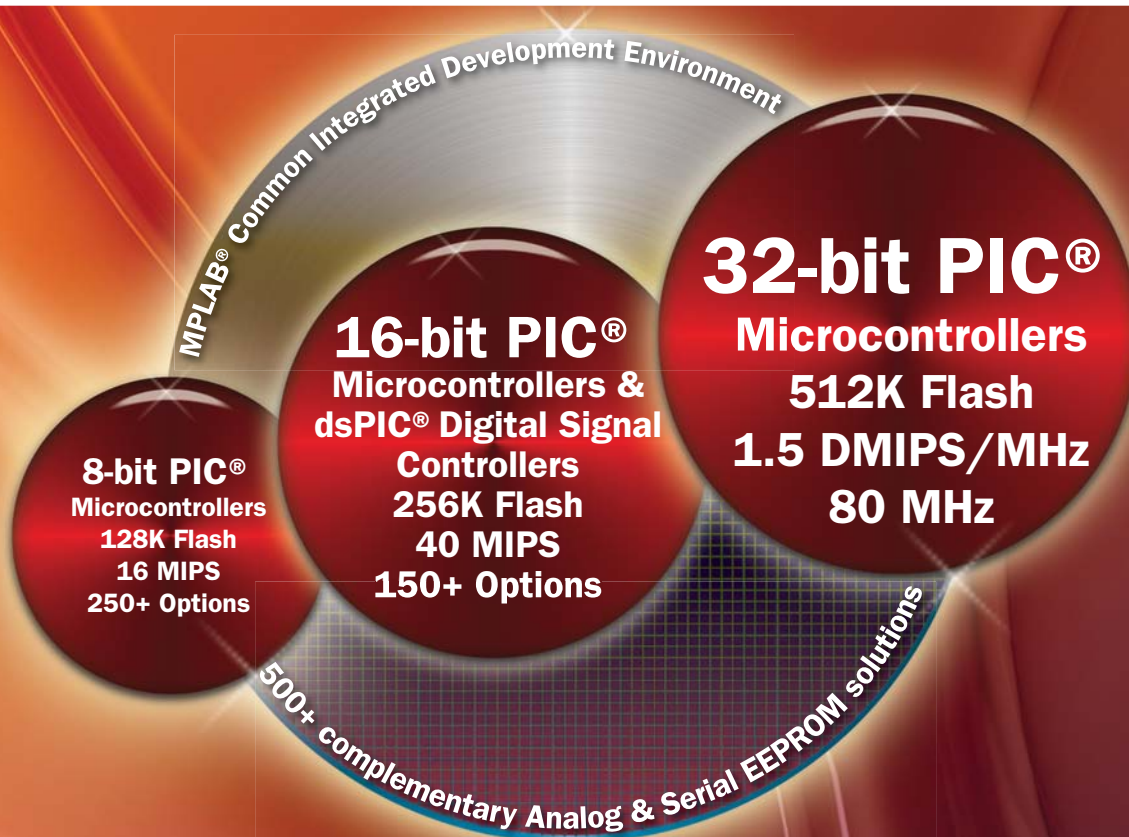
Create Scalable Products in a Consistent Environment

- Common MPLAB[®] development tools
- Pin & peripheral compatible with 16-bit PIC MCUs
- Peripheral libraries compatible with 16-bit PIC MCUs
- Common look and feel in ~500 PIC MCUs

More Design Options

Simplify your system design through integration

- Extensive analog and digital peripherals
- USB device, host and On-The-Go functionality
- 4 channel DMA controller with CRC
- 16-bit parallel master port

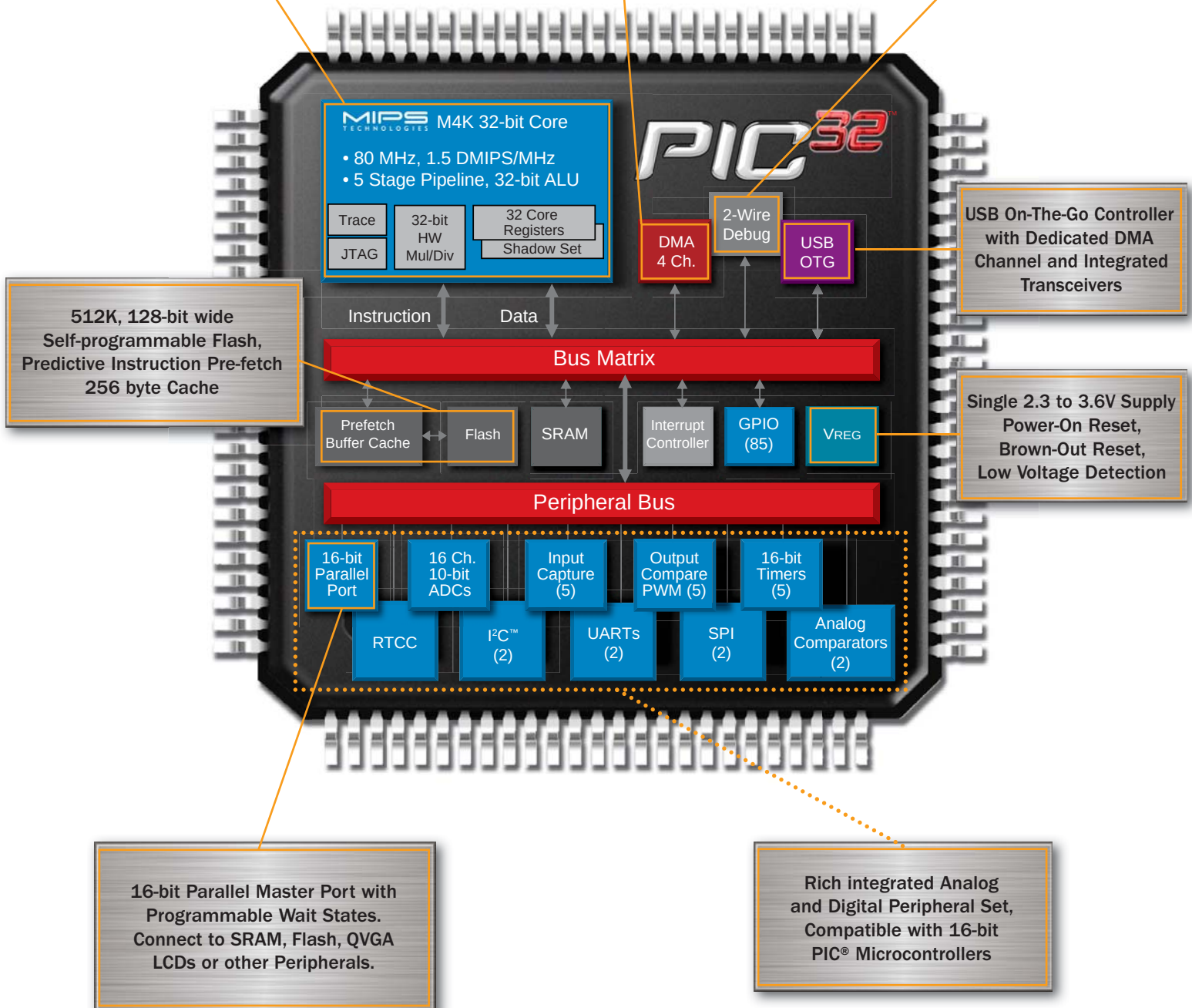


Inside the **PIC³²** Microcontroller

32-bit MIPS M4K Core,
Harvard Architecture,
Single Cycle Hardware MAC
Fast Interrupts & Context Switch

Direct Memory Access Controller
with integrated CRC module
operates in Idle mode

MPLAB[®] IDE,
MPLAB[®] ICD 2 In-Circuit Debugger
and MPLAB[®] REAL ICE[™]
In-Circuit Emulator compatible



Developing with the **PIC³²** Microcontroller

Microchip is the only silicon vendor with a full 8-, 16- and 32-bit microcontroller portfolio supported by a unified development environment. The MPLAB[®] IDE is free and easy to use.

PIC³² Starter Kit - Only \$49.99^{USD}! (DM320001)

Getting started is easy with the fully integrated PIC³² Starter Kit featuring simple installation, getting started tutorial and PIC³² Starter Kit board with easy USB connection to your PC. The Starter Kit includes:

- MPLAB IDE and MPLAB C32 C Compiler†
- PIC³² Starter Kit Board with Integrated Debugger
- Code Examples, Tutorials and Sample Projects
- Full Documentation
- PIC³² USB Demo Board (DM320003) available Q2'08

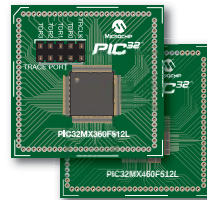
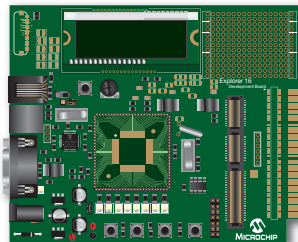
†Student Edition with a 64K code size limit and full optimizations with no time limit.



PIC³² Development Tools

Explorer 16 Development Board (DM240001)

A low-cost modular development system for Microchip's 16- and 32-bit microcontrollers.



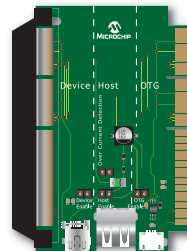
PIC³² Plug-in Modules **General Purpose (MA320001)** **USB OTG (MA320002)**

Enables development with PIC³² in conjunction with the Explorer 16 Development Board. The PIMs feature 80 MHz, 512K Flash, 32K RAM, 100-pin devices.



MPLAB REAL ICE™ **In-Circuit Emulation System** (DV244005)

A high-speed emulator, debugger and programmer supporting Microchip's 8-, 16- and 32-bit microcontrollers. Optional instruction trace kit available for the PIC³² family.



USB PICtail™ Plus **Daughter Board (AC164131)**

Enables USB connectivity when using the PIC³² USB PIM in conjunction with the Explorer 16 board.



MPLAB® Integrated **Development Environment** (IDE) (SW007002)

Free unified development environment supporting all PIC[®] microcontrollers.



MPLAB ICD 2 In-Circuit **Debugger (DV164007)**

In-circuit debugging supports Microchip's 8-, 16- and 32-bit microcontrollers.



MPLAB C32 C Compiler (SW006015)

Optimized C Compiler with full peripheral libraries. Free evaluation version available.

Microchip Software Libraries

www.microchip.com/pic32libraries

Connectivity	 Microchip TCP/IP	Now
	 Microchip TCP/IP with BSD Sockets	Now
	 IrDA® Stack	Planned
	 ZigBee™ Protocol Stack	Planned
	 MiWi™ Protocol Stack	Q1'08
USB	 USB Host	Now
	 USB Device	Now
	 USB Class Drivers – HID, MSD, CDC, Custom, etc.	Now
	 USB On-The-Go	Q2'08
Graphics	 Microchip Graphics Library	Q1'08
CAN	 Standalone CAN Library	Q1'08
Speech	 SPEEX Speech Encoding/Decoding Library	Planned
	 ADPCM Encoding/Decoding Library	Q1'08
Encryption	 Public Key Cryptography Library	Planned
Basic Libraries	 32-bit File System Library	Q2'08
	 16-bit File System Library	Now
	 Math Library	Now
	 Peripheral Library	Now
	 EEPROM Emulation	Planned

*Third party software information is available at: www.microchip.com/pic32libraries

Third-party Application Software and Hardware Support

IDE, C/C++ Compiler and Debugger



Embedded RTOS Support



Graphics GUI Support



For the most up-to-date information about our 32-bit portfolio and related development tools and technical support, visit:
www.microchip.com/PIC32

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