32-bit Microcontrollers

MICROCHIP

PIC32 Microcontroller Family

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

- 72 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 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 400+ PIC MCUs

More Cost Effective

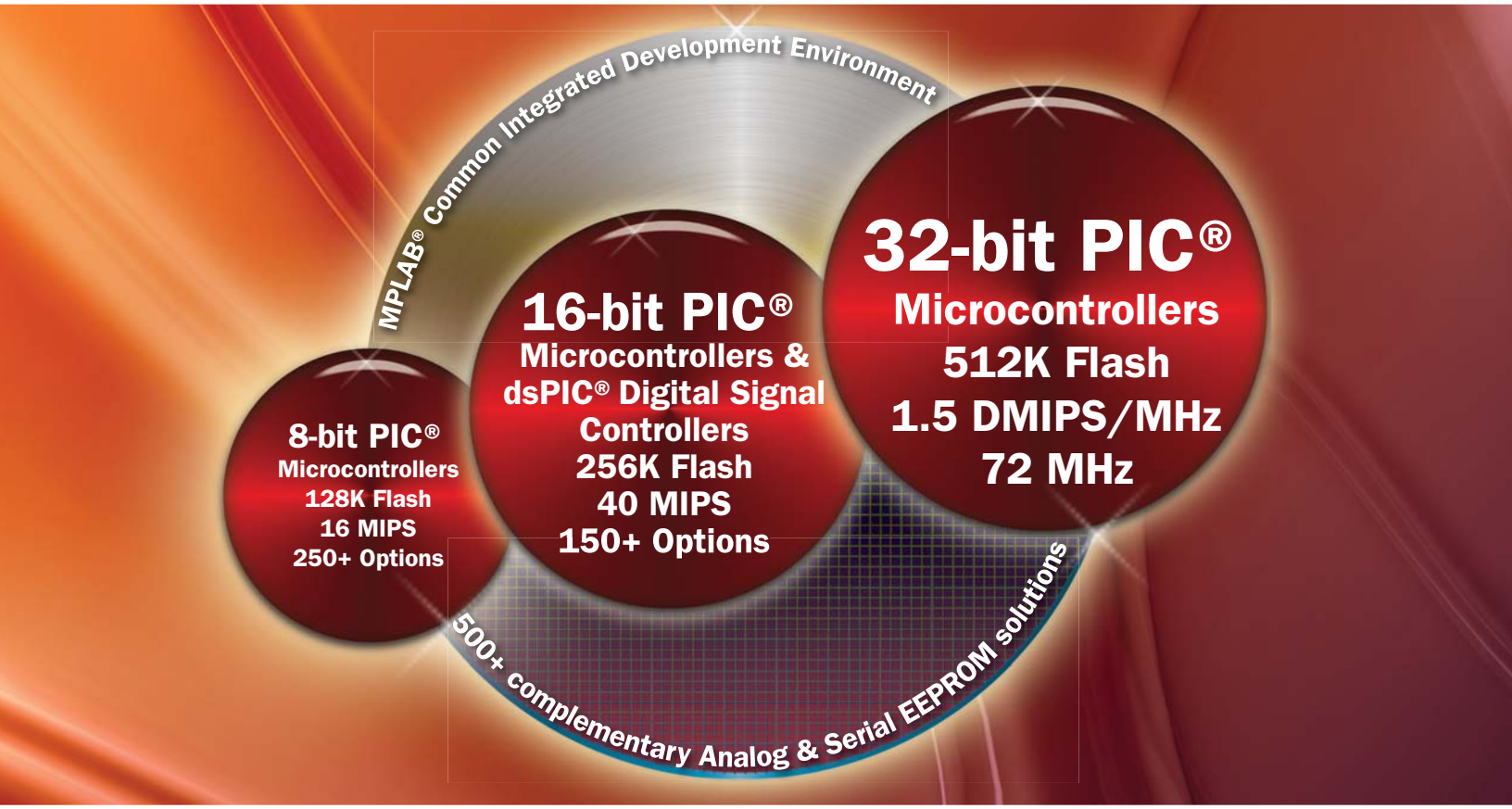
Shorten your projects and reuse Hardware, Software and Tools

- Free TCP/IP, Graphics and FAT16 source code
- Common Explorer 16 development platform
- $49 starter kit with free C compiler
- Hardware trace for less than $100

More Design Options

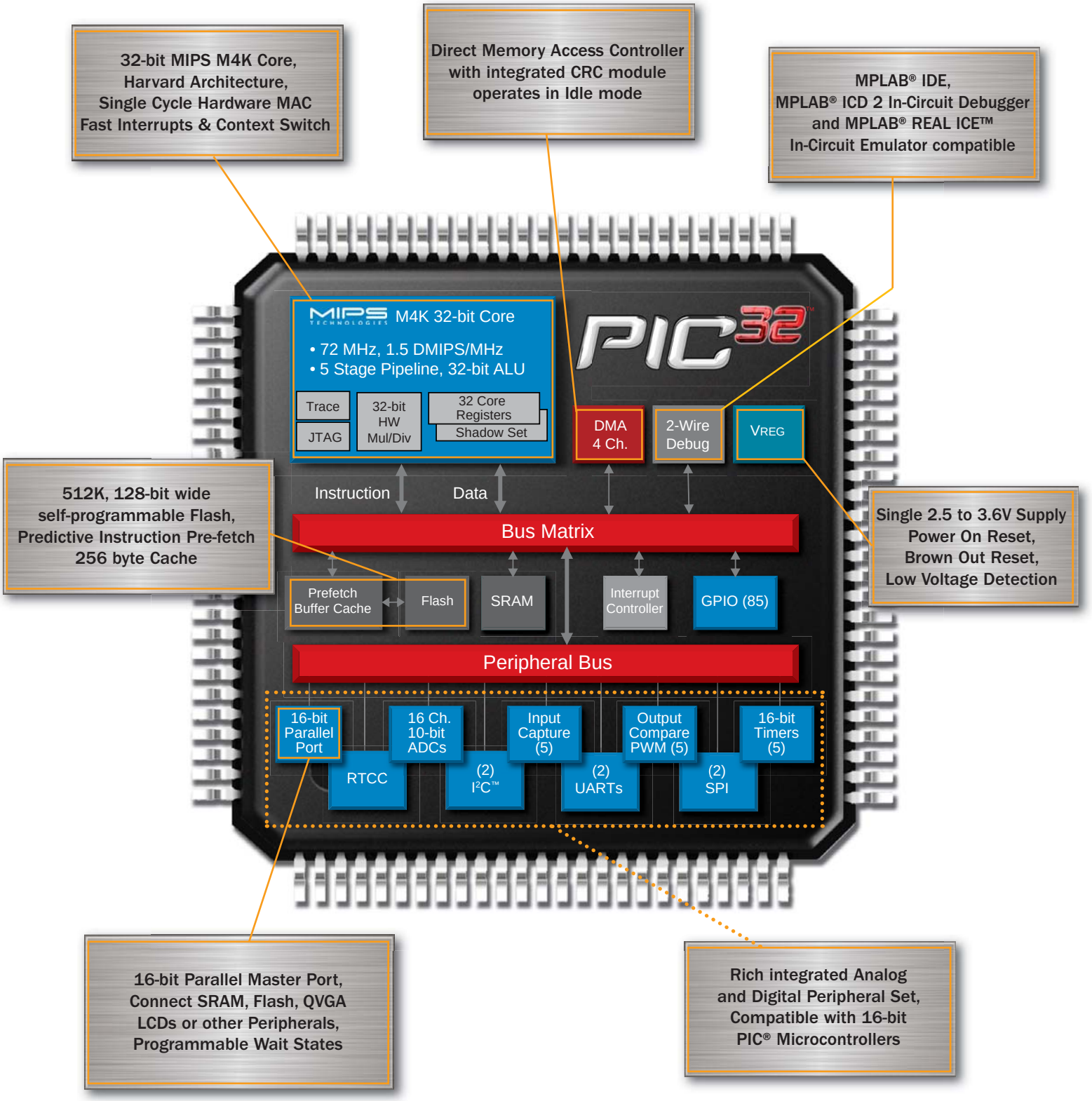
Simplify your system design through integration

- Extensive analog and digital peripherals
- 4 channel DMA controller with CRC
- Single supply with integrated regulator
- 16-bit parallel master port



www.microchip.com/PIC32

Inside the PIC32 Microcontroller



www.microchip.com/PIC32

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!*

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:

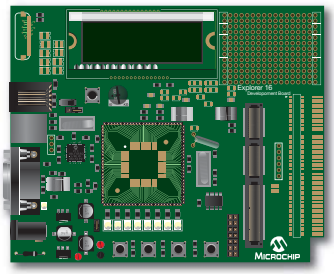
- MPLAB IDE and MPLAB C32 C Compiler†
- PIC32 Starter Kit Board with Integrated Debugger
- Code Examples
- Full Documentation
- Tutorials and Sample Projects

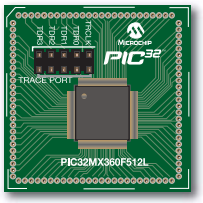
†Student Edition with a 64K code size limit and full optimizations with no time limit.

PIC32 Development Tools

Explorer 16 Development Board (DM240001)

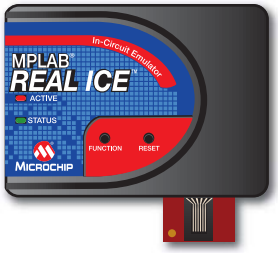
A low-cost modular development system for Microchip's 16- and 32-bit microcontrollers.





PIC32 Plug-in Module (MA320001)

Enables development with PIC32 in conjunction with the Explorer 16 Development Board. The PIM features the 72 MHz, 512K flash, 32K RAM, 100-pin device.



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.

MPLAB ICD 2 In-Circuit Debugger (DV164007)

Debugging with watch points, breakpoints, variable watch and modify and single stepping. Supports Microchip's 8-, 16- and 32-bit microcontrollers.

MPLAB® Integrated Development Environment (IDE) (SW007002)

Free unified development environment supporting all PIC® microcontrollers. Compatible with Microchip and third-party software and hardware development tools.

MPLAB C32 C Compiler (SW006015)

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

www.microchip.com/PIC32

PIC32 Microcontroller Family

The PIC32 microcontrollers operate at up to 72 MHz and offer ample code and data-space capabilities with up to 512 KB Flash and 32 KB RAM. These devices also include a rich set of integrated peripherals, significantly reducing total design complexity and cost.

Device	Freq. (MHz)	Flash (KB)	RAM (KB)	Pre-Fetch Module	DMA Ch.	10-bit ADC Ch.	Timers/ Cap/Com	UART/SPI I²C™	iTrace	Pins TQFP
PIC32MX300F032H	20	32	8	No	0	16	5/5/5	2/2/2	No	64
PIC32MX320F064H	72	64	16	Yes	0	16	5/5/5	2/2/2	No	64
PIC32MX320F128H	72	128	32	Yes	0	16	5/5/5	2/2/2	No	64
PIC32MX340F256H	72	256	32	Yes	4	16	5/5/5	2/2/2	No	64
PIC32MX320F128L	72	128	16	Yes	0	16	5/5/5	2/2/2	No	100
PIC32MX360F256L	72	256	16	Yes	4	16	5/5/5	2/2/2	Yes	100
PIC32MX360F512L	72	512	32	Yes	4	16	5/5/5	2/2/2	Yes	100

All PIC32MX devices feature: POR, BOR, LVD, programmable internal pull-ups, internal voltage regulator and operate at -40° to +85°.

Third-party Application Software and Hardware Support

IDE, C/C++ Compiler and Debugger

Green Hills Software, Inc.

ASHLING — The Development Systems Company

HI-TECH Software

Embedded RTOS Support

Micriμm — Empowering Embedded Systems

expresslogic

CMX Systems

SEGGER

freeRTOS

PUMPKIN — Real-Time Software

Graphics GUI Support

easyGUI

RAMTEX

Micriμm — Empowering Embedded Systems

SEGGER

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

Support

Microchip is committed to supporting its customers in developing products faster and more efficiently. We maintain a worldwide network of field applications engineers and technical support ready to provide product and system assistance. In addition, the following service areas are available at www.microchip.com:

- **Support** link provides a way to get questions answered fast: **http://support.microchip.com**
- **Sample** link offers free evaluation samples of any Microchip device: **http://sample.microchip.com**
- **Training** link offers webinars, registration for local seminars/workshops and information on annual MASTERs events held throughout the world: **www.microchip.com/training**

Purchase

microchip DIRECT
www.microchipdirect.com

microchipDIRECT is a web-based purchasing site that gives you 24-hour-a-day access to all Microchip devices and tools, including pricing, ordering, inventory and support. You can buy the products you need on an easily opened Microchip line of credit.

Sales Office Listing

Technical Support: http://support.microchip.com

AMERICAS

Atlanta
Tel: 678-957-9614

Boston
Tel: 774-760-0087

Chicago
Tel: 630-285-0071

Cleveland
Tel: 216-447-0464

Dallas
Tel: 972-818-7423

Detroit
Tel: 248-538-2250

Kokomo
Tel: 765-864-8360

Los Angeles
Tel: 949-462-9523

Santa Clara
Tel: 408-961-6444

Toronto
Mississauga, Ontario
Tel: 905-673-0699

EUROPE

Austria - Wels
Tel: 43-7242-2244-39

Denmark - Copenhagen
Tel: 45-4450-2828

France - Paris
Tel: 33-1-69-53-63-20

Germany - Munich
Tel: 49-89-627-144-0

Italy - Milan
Tel: 39-0331-742611

Netherlands - Drunen
Tel: 31-416-690399

Spain - Madrid
Tel: 34-91-708-08-90

UK - Wokingham
Tel: 44-118-921-5869

ASIA/PACIFIC

Australia - Sydney
Tel: 61-2-9868-6733

China - Beijing
Tel: 86-10-8528-2100

China - Chengdu
Tel: 86-28-8665-5511

China - Fuzhou
Tel: 86-591-8750-3506

China - Hong Kong SAR
Tel: 852-2401-1200

China - Nanjing
Tel: 86-25-8473-2460

China - Qingdao
Tel: 86-532-8502-7355

China - Shanghai
Tel: 86-21-5407-5533

China - Shenyang
Tel: 86-24-2334-2829

China - Shenzhen
Tel: 86-755-8203-2660

China - Shunde
Tel: 86-757-2839-5507

China - Wuhan
Tel: 86-27-5980-5300

China - Xian
Tel: 86-29-8833-7252

ASIA/PACIFIC

India - Bangalore
Tel: 91-80-4182-8400

India - New Delhi
Tel: 91-11-4160-8631

India - Pune
Tel: 91-20-2566-1512

Japan - Yokohama
Tel: 81-45-471- 6166

Korea - Daegu
Tel: 82-53-744-4301

Korea - Seoul
Tel: 82-2-554-7200

Malaysia - Kuala Lumpur
Tel: 60-3-6201-9857

Malaysia - Penang
Tel: 60-4-227-8870

Philippines - Manila
Tel: 63-2-634-9065

Singapore
Tel: 65-6334-8870

Taiwan - Hsin Chu
Tel: 886-3-572-9526

Taiwan - Kaohsiung
Tel: 886-7-536-4818

Taiwan - Taipei
Tel: 886-2-2500-6610

Thailand - Bangkok
Tel: 66-2-694-1351

10/5/07

MICROCHIP

www.microchip.com/PIC32

Microchip Technology Inc. • 2355 W. Chandler Blvd. • Chandler, AZ 85224-6199

Microcontrollers • Digital Signal Controllers • Analog • Serial EEPROMs

Information subject to change. The Microchip name and logo, the Microchip logo, MPLAB and PIC are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. The PIC32 logo and REAL ICE are trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. All other trademarks mentioned herein are property of their respective companies.
© 2007, Microchip Technology Incorporated. All Rights Reserved. Printed in the U.S.A. 10/07

DS39904A