



PIC32 Microcontroller Families

PIC32[®]



Performance-Leading PIC32 Microcontrollers

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.

Broad Portfolio

From simple USB device connectivity to RTOS-driven graphical user interface applications with advanced audio processing, there is a PIC32 device to meet your design challenges.

- PIC32MZ with Floating Point Unit (FPU) Series: Up to 252 MHz/415 DMIPS, M-Class core with DSP instructions
- PIC32MX Series: Up to 120 MHz/150 DMIPS, MIPS® M4K core
- Floating Point Unit for fast single- and double-precision math
- Memory Management Unit (MMU) for optimum embedded OS execution
- Fast interrupts and context switch
- Dual-panel Flash with live update
- 16 KB to 2 MB Flash
- 4 KB to 512 KB RAM for data and program execution
- Temperature range: -40 to 85°C; -40 to 105°C; 0 to 70°C; -40 to 125°C
- AEC Q100 qualified: Grade 1 and 2
- Low pin count devices with Peripheral Pin Select (PPS) for pin remapping of most digital I/O

Industry-Leading Compatibility

Create scalable products in a consistent environment.

- Common MPLAB® development tools
- Pin- and peripheral-compatible with 16-bit PIC MCUs
- Common software stacks across MCUs
- Common tools environment for over 1,270 PIC MCUs

PIC32 Software Solutions Support

Get the latest updates at www.microchip.com/harmony.

USB	USB Host, Device, with Class Drivers
Graphics and Touch	Microchip Graphics Library MPLAB® Harmony Graphics Composer Touch System Service Library
CAN	CAN Driver and PLIB support for PIC32
Audio and Speech	Basic Audio Decoders: Speex, WAV, Opus; Premium Audio Decoders: MP3, AAC, WMA USB Audio 2.0 Device Class (Hi-Res Audio); PIC32 Bluetooth Audio Software
Wi-Fi®, Bluetooth® and Ethernet	Microchip TCP/IP with SSL and BSD; Bluetooth SPP Stack for PIC32; Wi-Fi Software Library; PIC32 Bluetooth Audio Software
Encryption	Cryptographic Library; wolfSSL SSL/TLS Library
Basic Libraries	File System Library; Floating Point Math Library; Peripheral Library; Fixed Point Math Library; Fixed Point DSP Library
Boot Loader	Serial Port Boot Loader USB Host Boot Loader Ethernet Boot Loader USB Device Boot Loader

Fast, Easy Development

Shorten your project design cycle.

- Free MPLAB X Integrated Development Environment supporting all Microchip MCUs
- Free MPLAB XC32/XC32++ Compiler
- MPLAB Harmony Software Framework to get you started with communications, graphics, Bluetooth®, file system, audio and signal processing
- Work in a familiar environment with a broad third party ecosystem of IDEs, RTOS and debuggers
- Cost effective development kits with free C compiler

More Design Options

Simplify your system design through integration.

- Extensive analog and digital peripherals including 10/100 Ethernet MAC, I²C, I²S, 10/12-bit ADCs with up to 48 analog channels, serial communications, SQI, EBI and Hi-Speed USB
- Up to 26 DMA channels
- 8/16-bit parallel master port supporting graphic interface and additional memory
- Capacitive touch for improved human interfaces with capacitive buttons or slider control

MPLAB Harmony for PIC32

Introduction

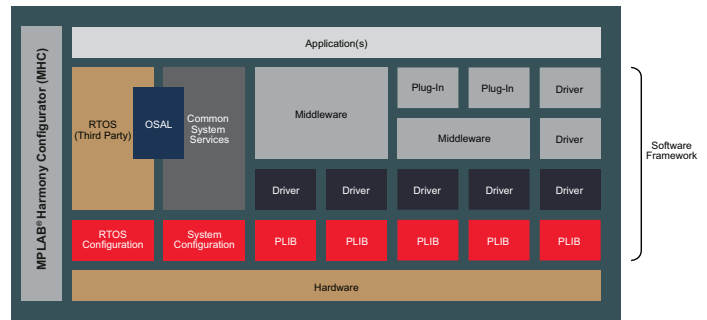
MPLAB Harmony is a flexible, abstracted, fully integrated firmware development environment for PIC32 microcontrollers. It enables robust framework development of interoperable RTOS-friendly libraries with quick and extensive



Microchip support for third party software integration. MPLAB Harmony includes a set of peripheral libraries, drivers and system services that are readily accessible for application development. The code development format allows for maximum re-use and reduces time-to-market. It features the MPLAB Harmony Configurator (MHC) plug-in that provides a graphical way to select and configure all MPLAB Harmony components, including middleware, system services and peripherals with ease.

The MHC plug-in also integrates MPLAB Harmony Graphics Composer to easily configure and visually design the MPLAB Harmony Graphics Primitive Library and the MPLAB Harmony Graphics Object Layer.

MPLAB Harmony Block Diagram



Benefits

- Faster time-to-market
- Improved code interoperability
- Simplified support
- MPLAB Harmony Configurator (MHC) for enhanced user experience
- Improved 32-bit scalability
- MPLAB Harmony Graphics Composer
- Enhanced third party software integration

PIC32 Software Development Tools Available with MPLAB Harmony

Applications	Operating System Abstraction Layer (OSAL)	Middleware/ Software Libraries	Device Drivers	Development Software	Third-Party Software
<ul style="list-style-type: none"> ■ Bluetooth® audio and SPP ■ CAN applications ■ Graphics applications ■ TCP/IP applications and utilities ■ USB applications ■ Crypto 	<ul style="list-style-type: none"> ■ OSAL interface with “basic” and “none” implementation ■ ThreadX ■ embOS ■ FreeRTOS ■ OpenRTOS ■ Micrium µC/OS-II ■ Micrium µC/OS-III 	<ul style="list-style-type: none"> ■ Graphics ■ TCP/IP ■ USB ■ Cryptographic libraries ■ File systems ■ System services ■ Bluetooth ■ DSP/Math ■ Bootloader ■ Peripheral Libraries (PLIBs) 	<ul style="list-style-type: none"> ■ ADC ■ Audio Codecs ■ Ethernet media access controller ■ Ethernet PHY interface ■ Controllerless graphics ■ Epson LCD controller ■ Non-volatile memory ■ SPI, UART, CAN2.0B, high-speed USB ■ Timer ■ Parallel master port 	<ul style="list-style-type: none"> ■ MPLAB® X IDE ■ MPLAB XC32++ ■ MPLAB Harmony Configurator (MHC) Plug-In ■ MPLAB Harmony Graphics Composer (MHGC) ■ Board Support Packages (BSP) 	<ul style="list-style-type: none"> ■ Security ■ IoT ■ Graphics ■ RTOS

Additional software components planned

Application Layer

- Implements desired overall behavior
- Abstracted hardware access
- Allows for easy port across PIC32 parts

Common System Services

- Provides common functionality to avoid duplication and conflicts
- Eliminates complex interactions and interdependencies between modules
- OSAL provides OS compatibility and interface
- Manages shared resources
- Supports low-level configuration and board support package

Peripheral Libraries (PLIB) Layer

- Provide functional interface for Microchip PIC32 scalability
- Implements part-specific features

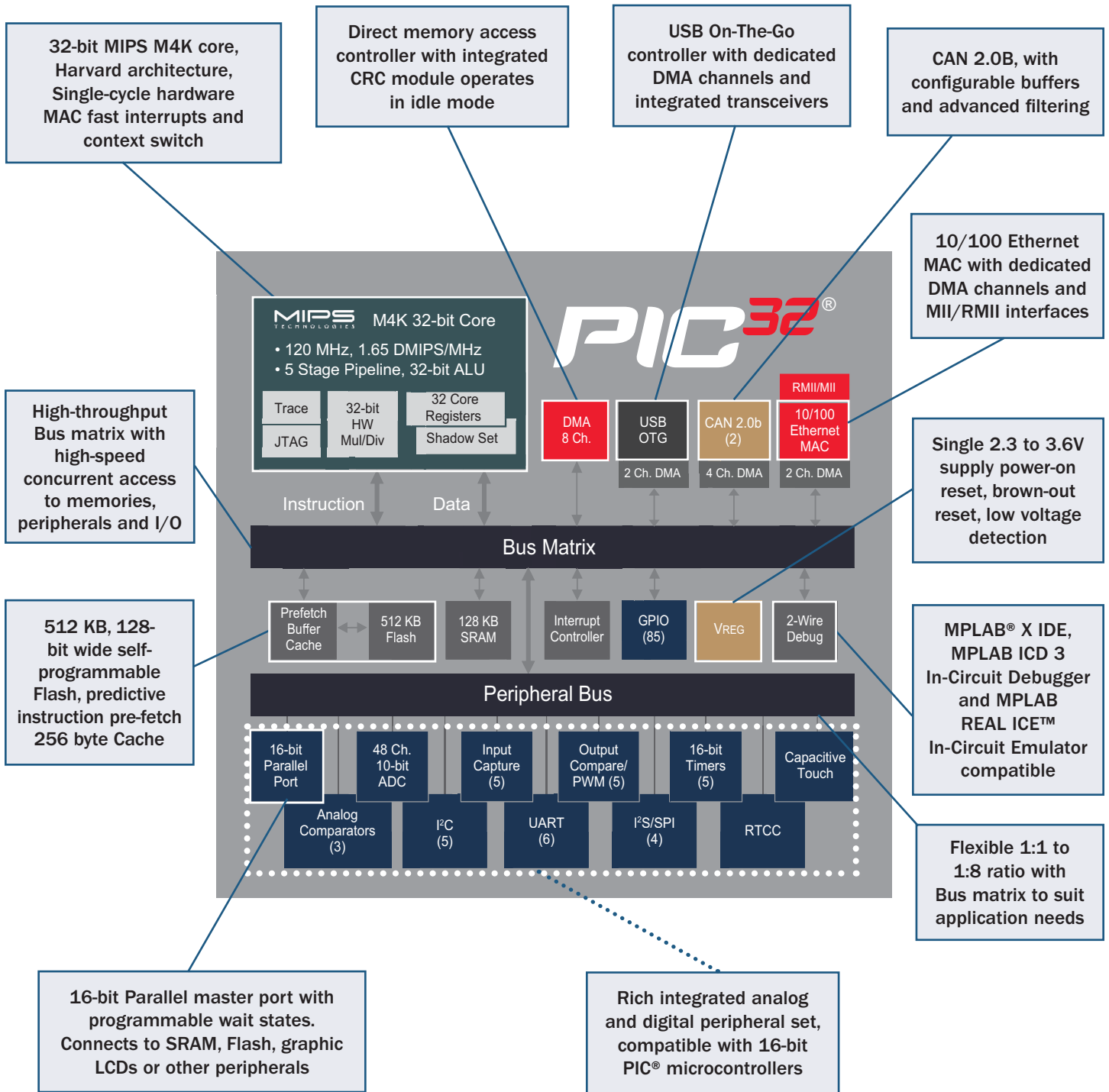
Middleware Layer

- Implements complex libraries and protocols (USB, TCP/IP, file systems, graphics)
- Provides a highly abstracted application program interface
- Libraries are thread-safe and RTOS-ready
- Built on drivers, PLIBs, system services
- Supports third party library integration

Device Driver Layer

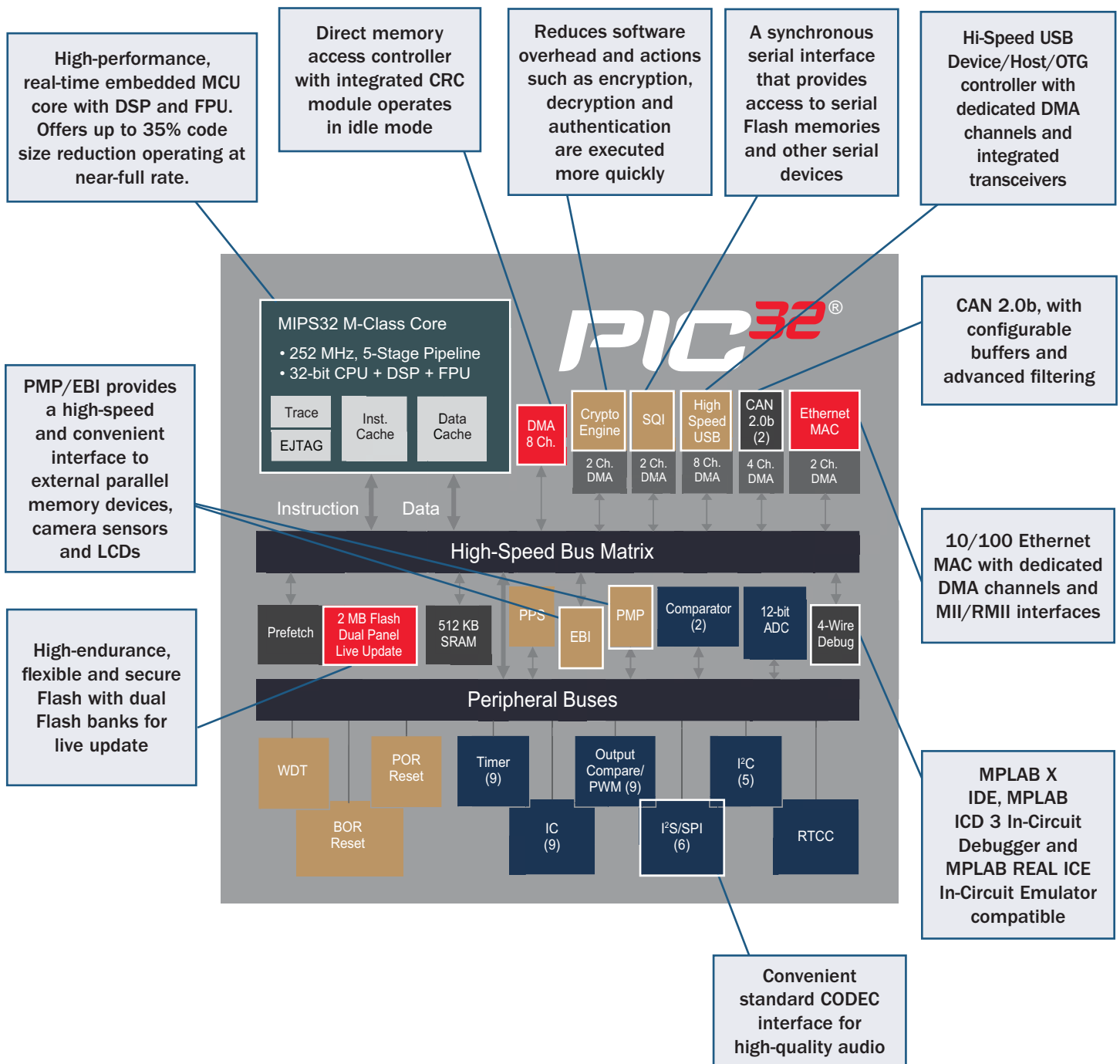
- Provides highly abstracted interface to peripheral
- Controls access to the peripheral
- Manages multiple hardware instances and software clients with select drivers
- Manages peripheral state and multiple peripheral instances
- Accesses hardware via PLIB
- Supports blocking or non-blocking code

Inside the MIPS® M4K Core PIC32 MCU



Note: Not all features are available on all PIC32 devices. Please see product family table for more information.

Inside the MIPS32® M-Class Core PIC32 MCU



Note: Not all features are available on all PIC32 devices. Please see product family table for more information.

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 X IDE is free and easy to use.

PIC32 Starter Kits

Getting started is easy with any of the fully integrated PIC32 Starter Kits. They feature simple installation, a getting started tutorial and a PIC32 starter board which easily connects to your PC via USB. The starter kits include:

- MPLAB X IDE and MPLAB XC32 C Compiler†
- PIC32 starter board with integrated programmer and debugger
- Code examples, documentation, tutorials and sample projects; optional I/O expansion board allows signal breakouts and connections for PICtail™ Plus daughter cards

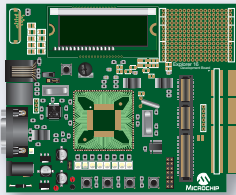
†Free version has **no code size limit** and full optimizations. After 60 days some optimizations are disabled.

PIC32 Development Tools

Choose a Platform: Explorer 16 Platform OR Starter Kit Platform

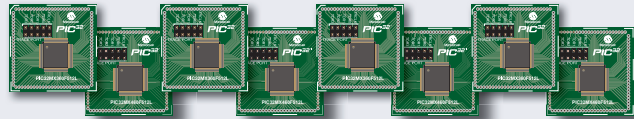
Explorer 16 Platform

Explorer 16 Development Board
(DM240001)



+

PIC32 Plug-in Modules
(MA320001/2/3/11/12/14/15/19)
(MA320002-2)



AND

MPLAB® ICD 3 In-Circuit Debugger
(DV164035)



OR

MPLAB REAL ICE In-Circuit Emulator
(DV244005)



OR

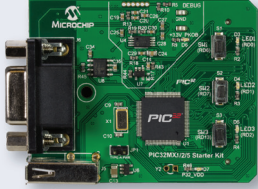
PICkit™ 3 In-Circuit Debugger
(PG164130)



Developing with the PIC32 Microcontroller

Starter Kit Platform

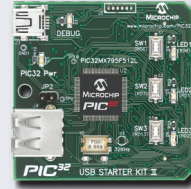
PIC32MX1/2/5 Starter Kit (DM320100)



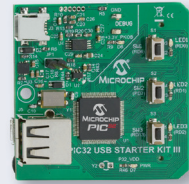
Microstick II (DM330013-2)



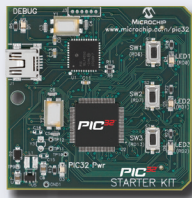
PIC32 USB Starter Kit II (DM320003-2)



PIC32 USB Starter Kit III (DM320003-3)



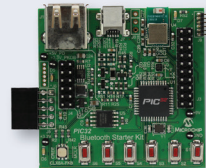
PIC32 Starter Kit (DM320001)



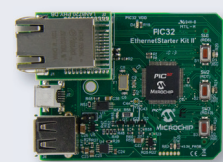
Wi-Fi® G Demo Board (DV102412)



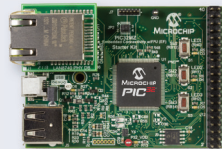
PIC32 Bluetooth Starter Kit (DM320018)



PIC32 Ethernet Starter Kit II (DM320004-2)



PIC32MZ with FPU Embedded Connectivity Starter Kit (DM320007)



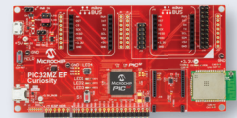
PIC32MZ with FPU and Crypto Engine Embedded Connectivity Starter Kit (DM320007-C)



Curiosity PIC32MX Board (DM320103)



Curiosity PIC32MZ Board (DM320104)



OPTIONAL

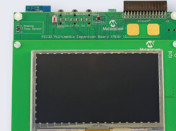
PIC32 Audio Codec Daughter Board (AC320100)



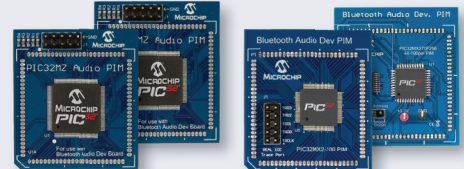
Multimedia Expansion Board (DM320005)



Multimedia Expansion Board II (DM320005-2)



PIC32 Plug-in Modules for Bluetooth Audio Development Kit (MA320013/16/17/18)*



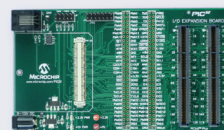
PIC32 Audio DAC Daughter Board (AC320032-2)



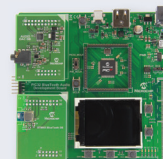
PIC32 GUI Development Board with Projected Capacitive Touch (DM320015)



PIC32 I/O Expansion Board (DM320002)



PIC32 Bluetooth® Audio Development Kit (DV320032)

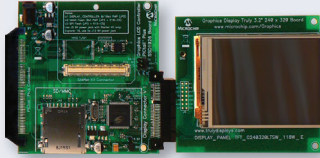


*Does not work with the Explorer 16 Development Board

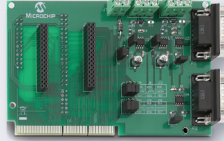
Developing with the PIC32 Microcontroller

PICtail™ Boards Common to Both Development Platforms

Graphics Daughter Board
with 3.2" Display Kit
(AC164127-3)



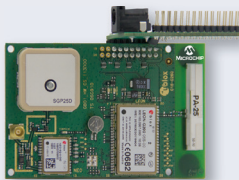
CAN/LIN PICtail Plus
Daughter Board
(AC164130-2)



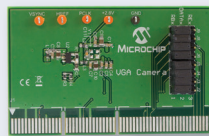
Low-Cost Controllerless (LCC)
Graphics PICtail Plus Board
(AC164144)



M2M PICtail Daughter Board
(AC320011)



PIC32 VGA Camera Sensor
(VCS) PICtail Plus Board
(AC164150)



MRF24WNOMA Wi-Fi Board
(AC164153)



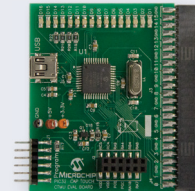
MRF24J40ME PICtail/
PICtail Plus (AC164143-1)



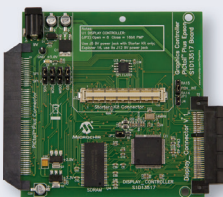
MRF24J40MA PICtail Plus 2.4 GHz RF Card
(AC164134)



PIC32MX CTMU Evaluation Board
(AC323027)










Graphics Controller PICtail
Plus Epson S1D13517 Board
(AC164127-7)



... and many more!

Third Party Application Software and Hardware Support

- Ashling Microsystems
- AVIX-RT
- chipKIT.net
- CMX Systems
- Digilent Inc.
- EETools Inc.
- EasyCode
- EasyGUI
- eflightworks
- ELNEC
- Express Logic 
- FreeRTOS 
- Fubarino
- Green Hills Software Inc.
- HCC-Embedded
- Lauterbach
- Macraigor Systems
- Micrium 
- Micro/sys Inc.
- OLIMEX Ltd.
- OpenRTOS 
- Pumpkin
- PubNub 
- RoweBots Research Inc.
- Schmalzhaus
- SEGGER 
- Serious Integrated
- Softlog
- SparkFun Electronics
- TechToys Company
- Virtual Fab
- wolfSSL 

 MPLAB Harmony Software Framework compatible.

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

MPLAB Harmony Board Support Packages (BSP)

A Board Support Package provides code and configuration items necessary to support board-specific hardware. A BSP may contain a board-specific configuration header, a board-specific system initialization file, a file containing board-specific ISR implementations. Everything that is contained within a BSP can be either used or replaced by application-specific items if desired.

Application	Development Tool	Part Number
Connectivity: USB, Ethernet, CAN, Wi-Fi® and Bluetooth® SPP	PIC32MX1/2/5 Starter Kit	DM320100
	PIC32 Bluetooth Starter Kit	DM320018
	PIC32 Ethernet Starter Kit	DM320004
	PIC32 Ethernet Starter Kit II	DM320004-2
	PIC32 USB Starter Kit II	DM320003-2
	PIC32 USB Starter Kit III	DM320003-3
	PIC32MZ with FPU, Embedded Connectivity Starter Kit	DM320007
	Explorer 16 Development Board	DM240001
	PIC32MX460 Plug-In Module (PIM)	MA320002
	PIC32MX450/470 PIM	MA320002-2
	PIC32MX795F PIM	MA320003
	PIC32MZ with FPU PIM	MA320019
	chipKIT™ WF32 Wi-Fi Development Board	TDGL021
	chipKIT Wi-FIRE Development Board	TDGL021-2
Wi-Fi G Demo Board	DV102412	
Graphics and Touch	Multimedia Expansion Board (MEB)	DM320005
	Multimedia Expansion Board II (MEB II)	DM320005-2
	Graphics Controller PICtail™ Plus Epson S1D13517	AC164127-7
	Graphics LCD Controller PICtail Plus SSD1926	AC164127-5
	Low-Cost Controllerless (LCC) Graphics Board	AC164144
	PIC32 GUI Development Board	DM320015
	Graphics Display Truly 3.2" 320 × 240 Board	AC164127-4
	Graphics Display Truly 5.7" 640 × 480 Board	AC164127-8
	Graphics Display Powertip 4.3" 480 × 272 Board	AC164127-6
Digital Audio and Bluetooth	Graphics Display 5" WVGA PCAP Board	AC320005
	PIC32 Bluetooth Audio Development Kit	DV320032
	PIC32MX270F512L Bluetooth PIM	MA320017
	PIC32MZ with FPU Bluetooth PIM	MA320018
	USB Digital Audio Accessory Board	DM320014

Board Support Packages (BSPs) for one or more combinations of the development tools listed above are offered with the MPLAB Harmony Software Framework. For a specific combination of BSPs and updates, please refer to the Board Support Packages document under the “Documentation” section at www.microchip.com/harmony.

MPLAB Harmony Resources

Download

Download MPLAB Harmony at www.microchip.com/harmony.

Support

User support is provided by forums at www.microchip.com/forums keyword: “harmony”.

Pricing

The basic framework is free. Select libraries may need to be purchased.

One-Stop Shop

License, resale and support (including select third-party solutions) all via www.microchip.com/harmony.

PIC32 Microcontroller Product Families

PIC32MX Devices

Device	Flash KB + Boot Flash (KB)	SRAM (KB)	Pin Count	Speed (MHz)	I ² S/SPI	I ² C	UARTs	DMA Channels General/Dedicated	PPS	USB (Full/Hi-Speed)	10/100 Ethernet	CAN 2.0b	IC/OC/PWM	10-bit ADC 1 Msps	Analog Comparator	Timers 16b/32b	RTCC	Parallel Master Port	JTAG Program, Debug, Boundary Scan	Max. Temperature Range (°C)
PIC32MX110F016B	16 + 3	4	28	40	2/2	2	2	4/0	Y	N	N	N	5/5/5	10	3	5/2	Y	Y	Y	-40 to +105
PIC32MX110F016C	16 + 3	4	36											12						
PIC32MX110F016D	16 + 3	4	44	40/50	2/2	2	2	4/0	Y	N	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX120F032B	32 + 3	8	28											10						
PIC32MX120F032C	32 + 3	8	36											12						
PIC32MX120F032D	32 + 3	8	44	3	2/2	2	2	4/0	Y	N	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX120F064H	64 + 3	8	64											28						
PIC32MX130F064B	64 + 3	16	28	40	2/2	2	2	4/0	Y	N	N	N	5/5/5	10	3	5/2	Y	Y	Y	-40 to +105
PIC32MX130F064C	64 + 3	16	36											12						
PIC32MX130F064D	64 + 3	16	44	40/50	2/2	2	2	4/0	Y	N	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX130F128H	128 + 3	16	64											28						
PIC32MX130F128L	128 + 3	16	100											48						
PIC32MX130F256B	256 + 3	16	28	2	2/2	2	2	4/0	Y	N	N	N	5/5/5	10	3	5/2	Y	Y	Y	-40 to +105
PIC32MX130F256D	256 + 3	16	44											13						
PIC32MX150F128B	128 + 3	32	28	40/50	2/2	2	2	4/0	Y	N	N	N	5/5/5	10	3	5/2	Y	Y	Y	-40 to +105
PIC32MX150F128C	128 + 3	32	36											12						
PIC32MX150F128D	128 + 3	32	44	3	2/2	2	2	4/0	Y	N	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX150F256H	256 + 3	32	64											28						
PIC32MX150F256L	256 + 3	32	100	48																
PIC32MX170F256B	256 + 3	64	28	2/2	2/2	2	2	4/0	Y	N	N	N	5/5/5	10	3	5/2	Y	Y	Y	-40 to +105
PIC32MX170F256D	256 + 3	64	44											13						
PIC32MX170F512H	512 + 3	64	64	3	4	2	2	4/0	Y	N	N	N	5/5/5	28	3	5/2	Y	Y	Y	-40 to +105
PIC32MX170F512L	512 + 3	64	100	48																
PIC32MX210F016B	16 + 3	4	28	40	2/2	2	2	4/2	Y	FS	N	N	5/5/5	9	3	5/2	Y	Y	Y	-40 to +105
PIC32MX210F016C	16 + 3	4	36											12						
PIC32MX210F016D	16 + 3	4	44	40/50	2/2	2	2	4/2	Y	FS	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX220F032B	32 + 3	8	28											9						
PIC32MX220F032C	32 + 3	8	36											12						
PIC32MX220F032D	32 + 3	8	44	13																
PIC32MX230F064B	64 + 3	16	28	40	2/2	2	2	4/2	Y	FS	N	N	5/5/5	9	3	5/2	Y	Y	Y	-40 to +105
PIC32MX230F064C	64 + 3	16	36											12						
PIC32MX230F064D	64 + 3	16	44	40/50	2/2	2	2	4/2	Y	FS	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX230F128H	128 + 3	16	64											28						
PIC32MX230F128L	128 + 3	16	100											48						
PIC32MX230F256B	256 + 3	16	28	2	2/2	2	2	4/2	Y	FS	N	N	5/5/5	9	3	5/2	Y	Y	Y	-40 to +105
PIC32MX230F256D	256 + 3	16	44											13						
PIC32MX250F128B	128 + 3	32	28	40/50	2/2	2	2	4/2	Y	FS	N	N	5/5/5	9	3	5/2	Y	Y	Y	-40 to +105
PIC32MX250F128C	128 + 3	32	36											12						
PIC32MX250F128D	128 + 3	32	44	3	2/2	2	2	4/2	Y	FS	N	N	5/5/5	13	3	5/2	Y	Y	Y	-40 to +105
PIC32MX250F256H	256 + 3	32	64											28						
PIC32MX250F256L	256 + 3	32	100	48																
PIC32MX270F256B	256 + 3	64	28	2/2	2/2	2	2	4/2	Y	FS	N	N	5/5/5	9	3	5/2	Y	Y	Y	-40 to +105
PIC32MX270F256D	256 + 3	64	44											13						
PIC32MX270F512H	512 + 3	64	64	3	4	2	2	4/2	Y	FS	N	N	5/5/5	28	3	5/2	Y	Y	Y	-40 to +105
PIC32MX270F512L	512 + 3	64	100	48																

Note: AEC-Q100 qualified for grade 2. Check individual product pages on www.microchip.com for details.

PIC32 Microcontroller Product Families

PIC32MX Devices (Continued)

Device	Flash KB + Boot Flash (KB)	SRAM (KB)	Pin Count	Speed (MHz)	I ² S/SPI	I ² C	UARTs	DMA Channels General/Dedicated	PPS	USB (Full/Hi-Speed)	10/100 Ethernet	CAN 2.0b	IC/OC/PWM	10-bit ADC 1 Msps	Analog Comparator	Timers 16b/32b	RTCC	Parallel Master Port	JTAG Program, Debug, Boundary Scan	Max. Temperature Range (°C)
PIC32MX320F032H	32 + 12	8	64	40	2/2	2	2	0/0	N	N	N	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105
PIC32MX320F064H	64 + 12	16	64	40																
PIC32MX320F064L			64	80																
PIC32MX320F128H	128 + 12	16	64	80																
PIC32MX320F128L			100																	
PIC32MX330F064H	64 + 12	16	64	100			4	5						4/0						
PIC32MX330F064L			100																	
PIC32MX340F128H	128 + 12	32	64	80	2/2	2	2	4/0	N	N	N	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105
PIC32MX340F128L			100																	
PIC32MX340F256H	256 + 12	32	64	80																
PIC32MX360F256L			100																	
PIC32MX340F512H	512 + 12	32	64	80																
PIC32MX360F512L			100																	
PIC32MX350F128H	128 + 12	32	64	100	2/2	2	4	4/0	Y	N	N	N	5/5/5	28 ch	2	5/2	Y	Y	Y	-40 to +105
PIC32MX350F128L			100/124				5													
PIC32MX350F526H			64				4													
PIC32MX350F526L	256 + 12	64	100/124				5													
PIC32MX370F512H	512 + 12	128	64				4													
PIC32MX370F512L			100/124				5													
PIC32MX420F032H	32 + 12	8	64	40	0/1	2	2	0/2	N	FS	N	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105
PIC32MX430F064H	64 + 12	16	64	100	2/2		4	4/2	Y					28 ch						
PIC32MX430F064L			100		2/2		5													
PIC32MX440F128H	128 + 12	32	64	80	0/1		2	2	N					16 ch						
PIC32MX440F128L			100	80	0/2															
PIC32MX440F256H	256 + 12	32	64	80	0/1															
PIC32MX460F256L			100	80	0/2															
PIC32MX440F512H	512 + 12	32	64	80	0/1															
PIC32MX460F512L			100	80	0/2															
PIC32MX450F128H	128 + 12	32	64	100	2/2	2	4/2	Y	28 ch											
PIC32MX450F128L			100/124							4	5									
PIC32MX450F256H			64							4										
PIC32MX450F256L	256 + 12	64	100/124							5										
PIC32MX470F512H	512 + 12	128	64							100/120	2/2	2	4/2	Y	28 ch					
PIC32MX470F512L			100/124													4	5			

Note: AEC-Q100 qualified for grade 2. Check individual product pages on www.microchip.com for details.

PIC32 Microcontroller Product Families

PIC32MX Devices (Continued)

Device	Flash KB + Boot Flash (KB)	SRAM (KB)	Pin Count	Speed (MHz)	I ² S/SPI	I ² C	UARTs	DMA Channels General/Dedicated	PPS	USB (Full/Hi-Speed)	10/100 Ethernet	CAN 2.0b	IC/OC/PWM	10-bit ADC 1 Msps	Analog Comparator	Timers 16b/32b	RTCC	Parallel Master Port	JTAG Program, Debug, Boundary Scan	Max. Temperature Range (°C)
PIC32MX530F128H	128+3	16	64	40/50	3	2	4	4/4	Y	FS	N	Y	5/5/5	28	3	5/2	Y	Y	Y	-40 to +105
PIC32MX530F128L	128+3	16	100		4		5							48						
PIC32MX570F512H	512+3	64	64		3		4							28						
PIC32MX570F512L	512+3	64	100		4		5							48						
PIC32MX534F064H	64 + 12	16	64	80	0/3	4	4/4	N	FS	N	1	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX534F064L		100	0/4	5																
PIC32MX564F064H		64	0/3	4																
PIC32MX564F064L		100	0/4	5																
PIC32MX564F128H	128 + 12	32	64	80	0/3	4	6	N	FS	N	1	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX564F128L			100	0/4	5															
PIC32MX575F256H	256 + 12	64	64	80	0/3	4	8/4	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX575F256L			100	0/4	5															
PIC32MX575F512H	512 + 12	64	64	80	0/3	4	6	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX575F512L			100	0/4	5															
PIC32MX664F064H	64 + 12	32	64	80	0/3	4	4/4	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX664F064L			100	0/4	5															
PIC32MX664F128H	128 + 12	32	64	80	0/3	4	6	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX664F128L			100	0/4	5															
PIC32MX675F256H	256 + 12	64	64	80	0/3	4	8/4	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX675F256L			100	0/4	5															
PIC32MX675F512H	512 + 12	64	64	80	0/3	4	6	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX675F512L			100	0/4	5															
PIC32MX695F512H	512 + 12	128	64	80	0/3	4	6	N	FS	Y	N	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX695F512L			100	0/4	5															
PIC32MX764F128H	128 + 12	32	64	80	0/3	4	4/6	N	FS	Y	1	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX764F128L			100	0/4	5															
PIC32MX775F256H	256 + 12	64	64	80	0/3	4	6	N	FS	Y	2	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX775F256L			100	0/4	5															
PIC32MX775F512H	512 + 12	64	64	80	0/3	4	8/8	N	FS	Y	2	5/5/5	16 ch	2	5/2	Y	Y	Y	-40 to +105	
PIC32MX775F512L			100	0/4	5															
PIC32MX795F512H			64	0/3	4															
PIC32MX795F512L			100	0/4	5															

Note: AEC-Q100 qualified for grade 2. Check individual product pages on www.microchip.com for details.

PIC32 Microcontroller Product Families

PIC32MZ Devices with Floating Point Unit (FPU)

Device	Flash KB + Boot Flash (KB)	SRAM (KB)	Pin Count	Speed (MHz)	I ² S/SPI	I ² C	UARTs	DMA Channels General/Dedicated	PPS	USB (Full/Hi-Speed)	10/100 Ethernet	CAN 2.0b	IC/OC/PWM	12-bit ADC	ADC S/H	Analog Comparator	Timers 16b/32b	RTCC	SQI	EBI	Parallel Master Port	JTAG Program, Debug, Boundary Scan	Crypto Engine	Max. Temperature Range (°C)		
PIC32MZ2048EFG144	2048 + 160	512	144	200	6	5	6	8/12	Y	HS	Y	-	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	-40 to +125	
PIC32MZ2048EFH144	2048 + 160			252/200				8/16				2														
PIC32MZ2048EFG124	2048 + 160	512	124	200	6	5	6	8/12	Y	HS	Y	-	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	-40 to +125	
PIC32MZ2048EFH124	2048 + 160			8/16				2																		
PIC32MZ2048EFG100	2048 + 160	512	100	200	6	5	6	8/12	Y	HS	Y	-	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	N	-40 to +125	
PIC32MZ2048EFH100	2048 + 160			252/200				8/16				2														
PIC32MZ2048EFG064	2048 + 160	512	64	200	4	4	6	8/12	Y	HS	Y	-	9/9/9	24	6	2	9/4	Y	Y	N	Y	Y	Y	N	-40 to +125	
PIC32MZ2048EFH064	2048 + 160			252/200				8/16				2														
PIC32MZ1024EFG144	1024 + 160	512	144	200	6	5	6	8/12	Y	HS	Y	-	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	-40 to +125	
PIC32MZ1024EFH144	1024 + 160			8/16				2																		
PIC32MZ1024EFG124	1024 + 160	512	124	200	6	5	6	8/12	Y	HS	Y	-	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	-40 to +125	
PIC32MZ1024EFH124	1024 + 160			8/16				2																		
PIC32MZ1024EFG100	1024 + 160	512	100	200	6	5	6	8/12	Y	HS	Y	-	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	N	-40 to +125	
PIC32MZ1024EFH100	1024 + 160			8/16				2																		
PIC32MZ1024EFG064	1024 + 160	512	64	200	4	4	6	8/12	Y	HS	Y	-	9/9/9	24	6	2	9/4	Y	Y	N	Y	Y	Y	N	-40 to +125	
PIC32MZ1024EFH064	1024 + 160			8/16				2																		
PIC32MZ2048EFM144	2048 + 160	512	144	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ2048EFM124	2048 + 160	512	124	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ2048EFM100	2048 + 160	512	100	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ2048EFM064	2048 + 160	512	64	200	4	4	6	8/18	Y	HS	Y	2	9/9/9	24	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ1024EFM144	1024 + 160	512	144	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ1024EFM124	1024 + 160	512	124	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ1024EFM100	1024 + 160	512	100	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125
PIC32MZ1024EFM064	1024 + 160	512	64	200	4	4	6	8/18	Y	HS	Y	2	9/9/9	24	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	Y	-40 to +125

Note: AEC-Q100 qualified for grade 1. Check individual product pages on www.microchip.com for details. For availability please contact your local Microchip Sales Office.

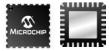
PIC32 Microcontroller Product Families

PIC32MZ Devices with Floating Point Unit (FPU) (Continued)

Device	Flash (KB + Boot Flash (KB))	SRAM (KB)	Pin Count	Speed (MHz)	I ² S/SPI	I ² C	UARTs	DMA Channels General/Dedicated	PPS	USB (Full/Hi-Speed)	10/100 Ethernet	CAN 2.0b	IC/OC/PWM	12-bit ADC	ADC S/H	Analog Comparator	Timers 16b/32b	RTCC	SQI	EBI	Parallel Master Port	JTAG Program, Debug, Boundary Scan	Crypto Engine	Max. Temperature Range (°C)	
PIC32MZ1024EFE144	1024 + 160	256	144	200	6	5	6	8/12	Y	HS	Y	–	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	–40 to +125
PIC32MZ1024EFF144	1024 + 160							8/16	2																
PIC32MZ1024EFE124	1024 + 160	256	124	200	6	5	6	8/12	Y	HS	Y	–	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	–40 to +125
PIC32MZ1024EFF124	1024 + 160							8/16	2																
PIC32MZ1024EFE100	1024 + 160	256	100	200	6	5	6	8/12	Y	HS	Y	–	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	N	–40 to +125
PIC32MZ1024EFF100	1024 + 160							8/16	2																
PIC32MZ1024EFE064	1024 + 160	256	64	200	4	4	6	8/12	Y	HS	Y	–	9/9/9	24	6	2	9/4	Y	Y	N	Y	Y	Y	N	–40 to +125
PIC32MZ1024EFF064	1024 + 160							8/16	2																
PIC32MZ1024EFK144	1024 + 160	256	144	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	–40 to +125
PIC32MZ1024EFK124	1024 + 160	256	124	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	–40 to +125
PIC32MZ1024EFK100	1024 + 160	256	100	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	–40 to +125
PIC32MZ1024EFK064	1024 + 160	256	64	200	4	4	6	8/18	Y	HS	Y	2	9/9/9	24	6	2	9/4	Y	Y	N	Y	Y	Y	Y	–40 to +125
PIC32MZ0512EFE144	512 + 160	128	144	200	6	5	6	8/12	Y	HS	Y	–	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	–40 to +125
PIC32MZ0512EFF144	512 + 160							8/16	2																
PIC32MZ0512EFE124	512 + 160	128	124	200	6	5	6	8/12	Y	HS	Y	–	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	N	–40 to +125
PIC32MZ0512EFF124	512 + 160							8/16	2																
PIC32MZ0512EFE100	512 + 160	128	100	200	6	5	6	8/12	Y	HS	Y	–	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	N	–40 to +125
PIC32MZ0512EFF100	512 + 160							8/16	2																
PIC32MZ0512EFE064	512 + 160	128	64	200	4	4	6	8/12	Y	HS	Y	–	9/9/9	24	6	2	9/4	Y	Y	N	Y	Y	Y	N	–40 to +125
PIC32MZ0512EFF064	512 + 160							8/16	2																
PIC32MZ0512EFK144	512 + 160	128	144	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	–40 to +125
PIC32MZ0512EFK124	512 + 160	128	124	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	48	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	–40 to +125
PIC32MZ0512EFK100	512 + 160	128	100	200	6	5	6	8/18	Y	HS	Y	2	9/9/9	40	6	2	9/4	Y	Y	Y	Y	Y	Y	Y	–40 to +125
PIC32MZ0512EFK064	512 + 160	128	64	200	4	4	6	8/18	Y	HS	Y	2	9/9/9	24	6	2	9/4	Y	Y	N	Y	Y	Y	Y	–40 to +125

Note: AEC-Q100 qualified for grade 1. Check individual product pages on www.microchip.com for details. For availability please contact your local Microchip Sales Office.

Package Options



28-pin QFN
6 × 6 mm (ML)



28-pin SSOP
10.2 × 7.8 mm (SS)



28-pin SOIC
17.9 × 10.3 mm (SO)



28-pin SPDIP
36 × 7.5 mm (SP)



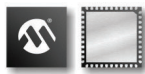
36-pin VTLA
5 × 5 mm (TL)



44-pin VTLA
6 × 6 mm (TL)



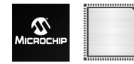
44-pin TQFP
10 × 10 mm (PT)



44-pin QFN
8 × 8 mm (ML)



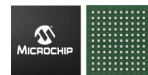
64-lead TQFP
10 × 10 mm (PT)



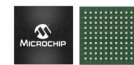
64-lead QFN
9 × 9 mm (MR)



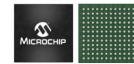
124-lead VTLA
9 × 9 mm (TL)



121-ball BGA
10 × 10 mm (BG)



100-ball TFBGA*
7 × 7 × 1.2 mm



144-ball TFBGA*
7 × 7 × 1.2 mm



100-lead TQFP
12 × 12 mm (PT)



100-lead TQFP
14 × 14 mm (PF)



144-lead TQFP (PH)
16 × 16 × 1 mm



144-lead LQFP (PL)
20 × 20 × 1.4 mm

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