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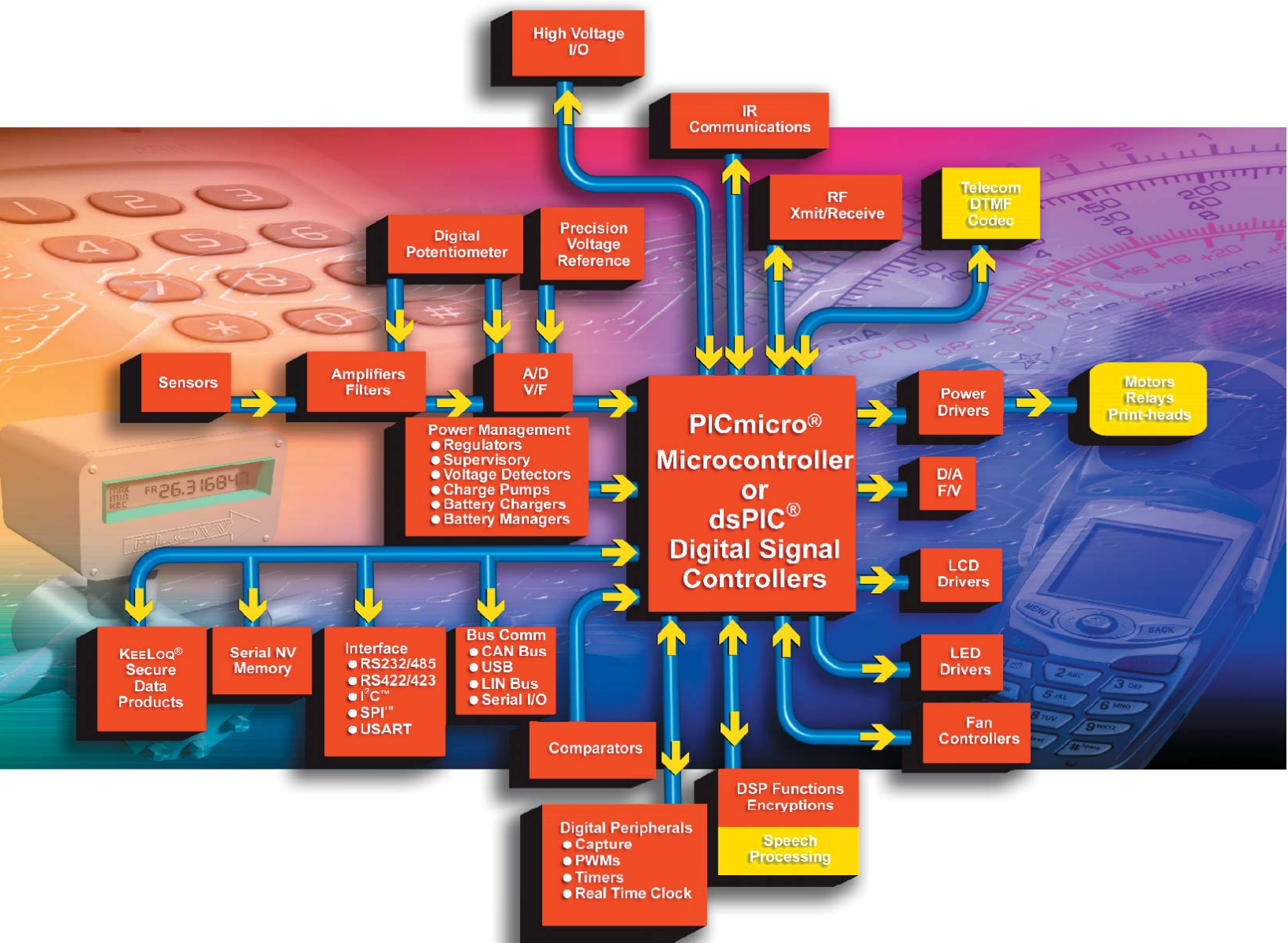
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# 2004 Product Selector Guide



# Product Profile

## **PICmicro® Microcontrollers**

Microchip's PICmicro® family of microcontrollers combine high performance, low cost and small package size to offer the best price/performance ratio in the industry. Based on a powerful RISC core, the PICmicro architecture provides users an easy migration path from 8 to 84 pins among all families with little or no code change required. Advanced features available are:

- sophisticated timing peripherals
- embedded analog-to-digital converters (ADCs) and digital-to-analog converters (DACs)
- extended instruction/data memory
- communications peripherals (I<sup>2</sup>C™/SPI™/USB/CAN and USARTs)
- In-Circuit Serial Programming™ technology (ICSP™)
- memory technology including one-time programmable (OTP), reprogrammable (FLASH) and read-only memory (ROM)
- advanced analog features (PBOR, PLVD, DAC, VREF, Op Amps and PSMC)

## **Analog & Interface Products**

Microchip offers a wide range of analog and related products:

- *Linear and Mixed-Signal.* ADCs/DACs, digital potentiometers, op amps and comparators.
- *Power Management.* LDO and switching regulators, charge pumps, voltage references, CPU/system supervisors and voltage detectors, battery chargers and power MOSFET drivers.
- *Thermal Management.* Temperature sensors (logic output, voltage output, and serial output), brushless DC fan controllers, and fan fault detectors.
- *Interface.* Peripheral products supporting industry-standard networking protocols like CAN, LIN and infrared (including IrDA® Standard infrared), as well as products that provide embedded system input/output expansion capability.

## **Secure Data Products**

Microchip's KEELoQ® family of code hopping devices provides "rock solid" security for remote-keyless-entry (RKE) and authentication applications. Devices using the KEELoQ code hopping algorithm combine high security, a small package outline and a very low cost to make this an ideal solution for unidirectional RKE systems. The KEELoQ code hopping technology creates a high degree of security using a long code word length together with encryption and synchronization techniques.

## **Memory Products**

- Microchip offers one of the broadest selections of serial EEPROMs in densities from 128 bits to 512 Kbits, with operating voltages down to 1.8V, in all popular bus protocols (I<sup>2</sup>C™, Microwire and SPI™ compatible). They are available in all standard temperature ranges from -40°C to +125°C and packaged in the world's smallest standard packaging; up to 16 Kbits in 5-lead SOT-23 and up to 256 Kbits in 8-lead MSOP. With high-speed buses, low power consumption, the highest E/W endurance and the longest data retention in the industry, Microchip's serial EEPROMs are used for virtually every application in the automotive, PC, consumer electronics, communications and industrial markets.

## **dsPIC® Digital Signal Controllers**

The dsPIC® family of Digital Signal Controllers features a fully-implemented digital signal processor (DSP) engine, 30 MIPS non-pipe lined performance, C compiler friendly design, and a familiar microcontroller architecture and design environment. These 20 new dsPIC30FXXX 16-bit FLASH microcontrollers provide the industry's highest performance and target motor control and power conversion, sensor processing, and general-purpose applications.

## **rfPIC® Microcontrollers and rfHCS Devices**

The rfPIC® family significantly eases the radio frequency (RF) design process while reducing component count and board space. The first devices feature an integrated 315/433 MHz ASK/FSK transmitter. These low-power single-chip RF solutions are the first of many planned devices in the new family which targets RF connectivity for high-volume embedded control applications, such as remote sensing, remote control, toys, security and access control.

## **Development Systems**

Microchip offers a full range of microcontroller development systems, including the MPLAB® ICE 2000 and ICE 9000 in-circuit emulators; MPLAB Integrated Development Environment; MPLAB C18 and C30 Compiler; the MPLAB ICD In-Circuit Debugger, MPLAB PM3 full-featured device programmer; PICSTART® low-cost development system; the PICkit™ 1 Flash Starter Kit, SEEVAL® Serial EEPROM Evaluation Kit and various demonstration boards. Microchip has shipped more than 300,000+ development systems worldwide.

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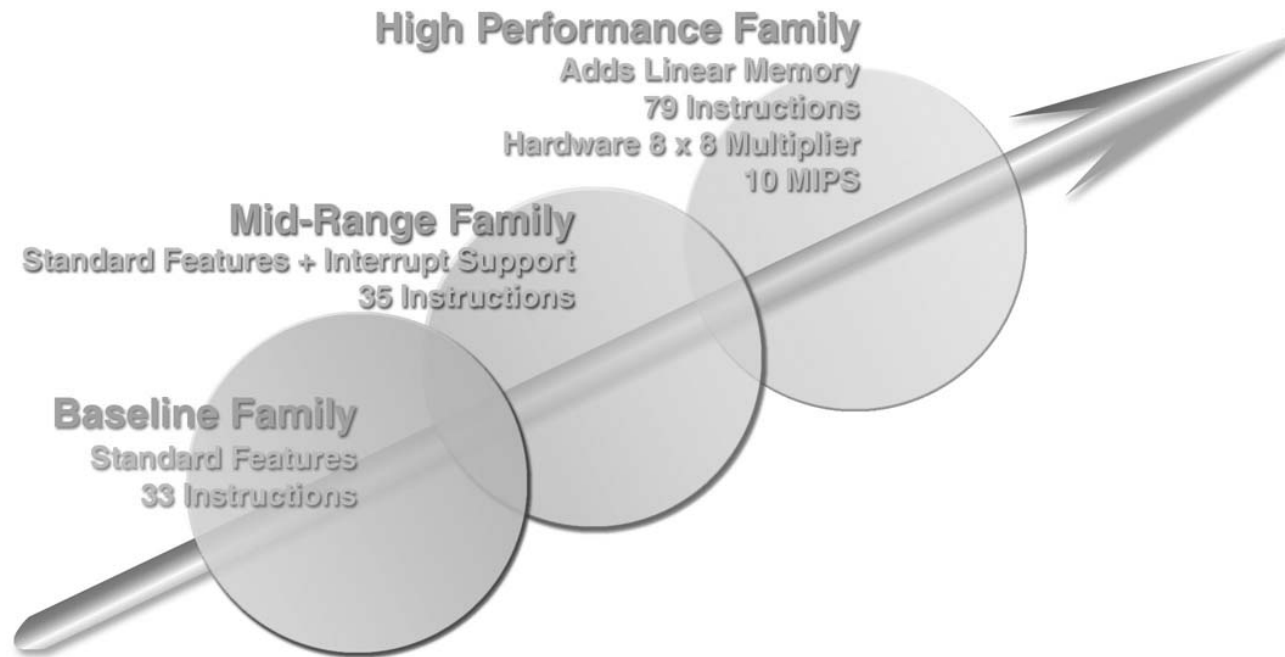
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## PICmicro<sup>®</sup> MICROCONTROLLER FAMILIES



### Baseline Product Family:

The Baseline product family is comprised of the PIC10 family and portions of the PIC12 and PIC16 families. These devices utilize a 12-bit program word architecture with 6- to 28-pin package options.

### Mid-Range Product Family:

The Mid-Range product family is comprised of portions of the PIC12 and PIC16 families. These devices feature a 14-bit program word architecture with 8- to 64-pin package options.

### High Performance Product Family:

The High Performance product family features the PIC18 family of devices. These microcontrollers utilize a 16-bit program word architecture with 18- to 80-pin package options.



## CURRENT MICROCONTROLLER FAMILY PRODUCTS

Baseline 8-Bit PICmicro® Microcontroller Family														
Product	Program Memory (Bytes)	RAM Bytes	I/O Pins	Packages	Analog		Digital	Max. Speed MHz	IntOSC	ICSP™	BOR/PBOR/PLVD	ICD # of Breakpoints	Operating Voltage (V)	Other Features
					ADC	Comp.	Timers/WDT							
<b>PIC10FXXX: 200 ns Instruction Execution, 33 Instructions</b>														
PIC10F200	384 StdFI	16	4	6OT, 8P	—	—	1-8 bit, 1-WDT	4	4 MHz	✓	—	1**	2.0 - 5.5	
PIC10F202	768 StdFI	24	4	6OT, 8P	—	—	1-8 bit, 1-WDT	4	4 MHz	✓	—	1**	2.0 - 5.5	
PIC10F204	384 StdFI	16	4	6OT, 8P	—	1	1-8 bit, 1-WDT	4	4 MHz	✓	—	1**	2.0 - 5.5	Bandgap reference
PIC10F206	768 StdFI	24	4	6OT, 8P	—	1	1-8 bit, 1-WDT	4	4 MHz	✓	—	1**	2.0 - 5.5	Bandgap reference
<b>PIC12C/FXXX (x12): 1 µs Instruction Execution, 33 Instructions, 4 Oscillator Selections</b>														
PIC12C508A	768 OTP	25	6	8P, 8SM, 8JW, 8SN, 8MF	—	—	1-8 bit, 1-WDT	4	4 MHz	✓	—	—	2.5 - 5.5	
PIC12C509A	1536 OTP	41	6	8P, 8SM, 8JW, 8SN, 8MF	—	—	1-8 bit, 1-WDT	4	4 MHz	✓	—	—	2.5 - 5.5	
PIC12F508	768 StdFI	25	6	8P, 8SN, 8MS	—	—	1-8 bit, 1-WDT	4	4 MHz	✓	—	1**	2.0 - 5.5	
PIC12F509	1536 StdFI	41	6	8P, 8SN, 8MS	—	—	1-8 bit, 1-WDT	4	4 MHz	✓	—	1**	2.0 - 5.5	
<b>PIC16C/F5X (x12): Upwardly Compatible with PIC16C5X/PIC12CXXX, 100-200 ns Instruction Execution, 33/35 Instructions, 4/5 Oscillator Selections</b>														
PIC16C55A	768 OTP	24	20	28P, 28JW, 28SP, 28SO, 28SS	—	—	1-8 bit, 1-WDT	40	—	—	—	—	2.5 - 5.5	
PIC16C56A	1536 OTP	25	12	18P, 18JW, 18SO, 20SS	—	—	1-8 bit, 1-WDT	40	—	—	—	—	2.5 - 5.5	
PIC16CR56A	1536 ROM	25	12	18P, 18SO, 20SS	—	—	1-8 bit, 1-WDT	20	—	—	—	—	2.5 - 5.5	
PIC16C58B	3072 OTP	73	12	18P, 18JW, 18SO, 20SS	—	—	1-8 bit, 1-WDT	40	—	—	—	—	2.5 - 5.5	
PIC16CR58B	3072 ROM	73	12	18P, 18SO, 20SS	—	—	1-8 bit, 1-WDT	20	—	—	—	—	2.5 - 5.5	
PIC16HV540	768 OTP	25	12	18P, 18JW, 18SO, 20SS	—	—	1-8 bit, 1-WDT	20	—	—	BOR	—	3.5 - 15	8 high-voltage (15V) I/Os, 4 deep stack, 5 I/Os with wake-up-on-change
PIC16F505	1536 StdFI	72	12	14P, 14JW, 14SL	—	—	1-8 bit, 1-WDT	20	4 MHz	✓	—	1**	2.0 - 5.5	
PIC16F54	768 StdFI	25	12	18P, 18SO, 20SS	—	—	1-8 bit, 1-WDT	20	—	✓	—	—	2.0 - 5.5	
PIC16F57	3072 StdFI	72	20	28P, 28SO, 28SS, 28SP	—	—	1-8 bit, 1-WDT	20	—	✓	—	—	2.0 - 5.5	
PIC16F59	3072 StdFI	134	32	40P, 44PT	—	—	1-8 bit, 1-WDT	20	—	✓	—	—	2.0 - 5.5	

\*Contact Microchip Technology for availability date.

\*\* Requires ICD specific device with header module – refer to Development Tools.

## Mid-Range 8-Bit PICmicro® Microcontroller Family

Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
<b>PIC12FXXX (x14): Upwardly Compatible with PIC12CXXX, 200 ns – 1 µs Instruction Execution, 35 Instructions, 4/5 Oscillator Selections, ICSP™</b>																
PIC12F629	1792 StdFI	128	64	6	8P, 8SN, 8MF	—	1	1-8 bit, 1-16 bit, 1-WDT	—	20	4 MHz	BOR	1**	—	—	
PIC12F635	1792 StdFI	128	64	6	8P, 8SN, 8MF	—	1	1-8 bit, 1-16 bit, 1-WDT	—	20	8 MHz	BOR/PLVD	1**	—	✓	KEELOQ® Functionality
PIC12F675	1792 StdFI	128	64	6	8P, 8SN, 8MF	4x10-bit	1	1-8 bit, 1-16 bit, 1-WDT	—	20	4 MHz	BOR	1**	—	—	
PIC12F683	3584 StdFI	256	128	6	8P, 8SN, 8MF	4x10-bit	1	1-16 bit, 2-8 bit, 1-WDT	—	20	8 MHz	BOR	1**	1/0	✓	
<b>PIC16CXXX (x14): Upwardly Compatible with PIC16C5X/PIC12CXXX, 4-12 Interrupts, 100-200 ns Instruction Executions, 35 Instructions, 4/5 Oscillator Selections, ICSP™ (except ROM)</b>																
PIC14000	7168 OTP	—	192	20	28SP, 28SO, 28SS, 28JW	8 SLAC	2	1-8 bit, 1-16 bit, 1-WDT	I <sup>2</sup> C™/SMB	20	4 MHz	—	—	—	—	Temperature Sensor, Prog. Reference Generator
PIC16C432	3584 OTP	—	128	12	20SS, 20P, 20JW	—	2	1-8 bit, 1-WDT	LIN	20	—	BOR	—	—	—	LIN XCVR, 18V/40 mA
PIC16C433	3584 OTP	—	128	6	18SO, 18P, 18JW	4x8-bit	—	1-8 bit, 1-WDT	LIN	10	4 MHz	—	—	—	—	LIN XCVR, 18V/40 mA
PIC16C554	896 OTP	—	80	13	18P, 18SO, 18JW, 20SS	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	—	
PIC16C558	3584 OTP	—	128	13	18P, 18SO, 18JW, 20SS	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	—	
PIC16C62B	3584 OTP	—	128	22	28SP, 28SO, 28SS, 28JW, 28ML	—	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI™	20	—	BOR	—	1/0	—	
PIC16C620A	896 OTP	—	96	13	18P, 18SO, 18JW, 20SS	—	2	1-8 bit, 1-WDT	—	40	—	BOR	—	—	—	
PIC16CR620A	896 OTP	—	96	13	18P, 18SO, 20SS	—	2	1-8 bit, 1-WDT	—	20	—	BOR	—	—	—	
PIC16C621A	1792 OTP	—	96	13	18P, 18SO, 18JW, 20SS	—	2	1-8 bit, 1-WDT	—	40	—	BOR	—	—	—	
PIC16C622A	3584 OTP	—	128	13	18P, 18SO, 18JW, 20SS	—	2	1-8 bit, 1-WDT	—	40	—	BOR	—	—	—	
PIC16C63A	7168 OTP	—	192	22	28SP, 28SO, 28SS, 28JW, 28ML	—	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	
PIC16CR63	7168 OTP	—	192	22	28SP, 28SO, 28SS	—	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	
PIC16C65B	7168 OTP	—	192	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	PSP
PIC16CR65	7168 OTP	—	192	33	40P, 44L, 44PQ, 44PT	—	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	PSP
PIC16C717	3584 OTP	—	256	16	18P, 18SO, 18JW, 20SS	6x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	MI <sup>2</sup> C/SPI	20	4 MHz	PBOR/PLVD	—	0/1	—	
PIC16C72A	3584 OTP	—	128	22	28SP, 28SO, 28JW, 28SS, 28ML	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	—	BOR	—	1/0	—	
PIC16CR72	3584 OTP	—	128	22	28SP, 28SO, 28SS	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	—	BOR	—	1/0	—	
PIC16C73B	7168 OTP	—	192	22	28SP, 28SO, 28JW, 28SS, 28ML	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	
PIC16C74B	7168 OTP	—	192	33	40P, 40JW, 44L, 44PQ, 44PT	8x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	PSP
PIC16C745	14336 OTP	—	256	22	28SP, 28SO, 28JW	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, low speed USB	24	—	BOR	—	2/0	—	USB 1.1, 64 bytes dual port RAM

<b>Mid-Range 8-Bit PICmicro® Microcontroller Family</b>																
Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
<b>PIC16CXXX (x14): Upwardly Compatible with PIC16C5X/PIC12CXXX, 4-12 Interrupts, 100-200 ns Instruction Executions, 35 Instructions, 4/5 Oscillator Selections, ICSP™ (except ROM) (continued)</b>																
PIC16C765	14336 OTP	—	256	33	40P, 40JW, 44L, 44PT	8x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, low speed USB	24	—	BOR	—	2/0	—	USB 1.1, 64 bytes dual port RAM, PSP
PIC16C770	3584 OTP	—	256	16	20P, 20SO, 20JW, 20SS	6x12-bit	—	1-16 bit, 2-8 bit, 1-WDT	M <sup>2</sup> C/SPI	20	4 MHz	PBOR/PLVD	—	0/1	—	
PIC16C771	7168 OTP	—	256	16	20P, 20SO, 20JW, 20SS	6x12-bit	—	1-16 bit, 2-8 bit, 1-WDT	M <sup>2</sup> C/SPI	20	4 MHz	PBOR/PLVD	—	0/1	—	
PIC16C773	7168 OTP	—	256	22	28SP, 28SO, 28SS, 28JW	6x12-bit	—	1-16 bit, 2-8 bit, 1-WDT	AUSART, M <sup>2</sup> C/SPI	20	—	PBOR/PLVD	—	2/0	—	
PIC16C774	7168 OTP	—	256	33	40P, 40JW, 44L, 44PQ, 44PT	10x12-bit	—	1-16 bit, 2-8 bit, 1-WDT	AUSART, M <sup>2</sup> C/SPI	20	—	PBOR/PLVD	—	2/0	—	PSP
PIC16C781	1792 OTP	—	128	16	20P, 20SO, 20SS, 20JW	8x8-bit	2	1-16 bit, 2-8 bit, 1-WDT	—	20	4 MHz	PBOR	—	—	—	Op Amp, PSMC, DAC
PIC16C782	3584 OTP	—	128	16	20P, 20SO, 20SS, 20JW	8x8-bit	2	1-16 bit, 2-8 bit, 1-WDT	—	20	4 MHz	PBOR/PLVD	—	—	—	Op Amp, PSMC, DAC
PIC16C925	7168 OTP	—	176	52	68CL, 68L, 64PT	5x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	—	BOR	—	1/0	—	LCD module, static, 1/2, 1/3, 1/4 multiplex
PIC16C926	14336 OTP	—	336	52	68CL, 68L, 64PT	5x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	—	BOR	—	1/0	—	LCD module, static, 1/2, 1/3, 1/4 multiplex
<b>PIC16FXXX (x14): Migration to PIC16CXXX/PIC16C5X/PIC12CXXX, 17 Interrupts, 200 ns Instruction Execution, 33/35 Instructions, 4 Oscillator Selections, ICSP™ (except ROM)</b>																
PIC16F627A	1792 StdFI	128	224	16	18P, 18SO, 20SS, 28ML	—	2	1-16 bit, 2-8 bit, 1-WDT	AUSART	20	4 MHz	BOR	1**	1/0	✓	
PIC16F628A	3584 StdFI	128	224	16	18P, 18SO, 20SS, 28ML	—	2	1-16 bit, 2-8 bit, 1-WDT	AUSART	20	4 MHz	BOR	1**	1/0	✓	
PIC16F630	1792 StdFI	128	64	12	14P, 14SL, 14ST	—	1	1-8 bit, 1-16 bit, 1-WDT	—	20	4 MHz	BOR	1**	—	—	
PIC16F636	3584 StdFI	256	128	12	14P, 14SL, 14ST	—	2	1-8 bit, 1-16 bit, 1-WDT	—	20	8 MHz	BOR/PLVD	1**	—	✓	KEELOQ® Functionality
PIC16F684	3584 StdFI	256	128	12	14P, 14SL, 14ST	8x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	—	20	8 MHz	BOR	1**	0/1	✓	
PIC16F648A	7168 StdFI	256	256	16	18P, 18SO, 20SS, 28ML	—	2	1-16 bit, 2-8 bit, 1-WDT	AUSART	20	4 MHz	BOR	1**	1/0	✓	
PIC16F676	1792 StdFI	128	64	12	14P, 14SL, 14ST	8x10-bit	1	1-8 bit, 1-16 bit, 1-WDT	—	20	4 MHz	BOR	1**	—	—	
PIC16F688	7168 StdFI	256	256	12	14P, 14SL, 14ST	8x10-bit	2	1-8 bit, 1-16 bit, 1-WDT	EUSART	20	8 MHz	BOR	1**	—	✓	
PIC16F716	3584 StdFI	—	128	13	18P, 18SO, 20SS	4x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	—	20	—	BOR	1**	0/1	—	
PIC16F72	3584 StdFI	—	128	22	28SP, 28SO, 28SS, 28ML	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	—	BOR	—	1/0	—	
PIC16F73	7168 StdFI	—	192	22	28SP, 28SO, 28SS, 28ML	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	
PIC16F737	7168 StdFI	—	368	25	28SP, 28SO, 28SS, 28ML	11x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, M <sup>2</sup> C/SPI	20	8 MHz	PBOR/PLVD	1	3/0	✓	
PIC16F74	7168 StdFI	—	192	33	40P, 44ML, 44L, 44PT	8x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	PSP

## Mid-Range 8-Bit PICmicro® Microcontroller Family

Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
<b>PIC16FXXX (x14): Migration to PIC16CXXX/PIC16C5X/PIC12CXXX, 17 Interrupts, 200 ns Instruction Execution, 33/35 Instructions, 4 Oscillator Selections, ICSP™ (except ROM) (continued)</b>																
PIC16F747	7168 StdFI	—	368	36	40P, 44PT, 44ML	14x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	8 MHz	PBOR/PLVD	1	3/0	✓	PSP
PIC16F76	14336 StdFI	—	368	22	28SP, 28SO, 28SS, 28ML	5x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	
PIC16F767	14336 StdFI	—	368	25	28SP, 28SO, 28SS, 28ML	11x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	8 MHz	PBOR/PLVD	1	3/0	✓	
PIC16F77	14336 StdFI	—	368	33	40P, 44ML, 44L, 44PT	8x8-bit	—	1-16 bit, 2-8 bit, 1-WDT	USART, I <sup>2</sup> C/SPI	20	—	BOR	—	2/0	—	PSP
PIC16F777	14336 StdFI	—	368	36	40P, 44PT, 44ML	14x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	8 MHz	PBOR/PLVD	1	3/0	✓	PSP
PIC16F818	1792 EnhFI	128	128	16	18P, 18SO, 20SS, 28ML	5x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	8 MHz	BOR	1	1/0	✓	
PIC16F819	3584 EnhFI	256	256	16	18P, 18SO, 20SS, 28ML	5x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	I <sup>2</sup> C/SPI	20	8 MHz	BOR	1	1/0	✓	
PIC16F84A	1792 StdFI	64	68	13	18P, 18SO, 20SS	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	—	
PIC16F87	7168 EnhFI	256	368	16	18P, 18SO, 20SS, 28ML	—	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, I <sup>2</sup> C/SPI	20	8 MHz	BOR	1	1/0	✓	
PIC16F870	3584 EnhFI	64	128	22	28SP, 28SO, 28SS	5x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	AUSART	20	—	BOR	1	1/0	—	
PIC16F871	3584 EnhFI	64	128	33	40P, 44L, 44PT	8x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	AUSART	20	—	BOR	1	1/0	—	PSP
PIC16F872	3584 EnhFI	64	128	22	28SP, 28SO, 28SS	5x10-bit	—	1-16 bit, 2-8 bit, 1-WDT	MI <sup>2</sup> C/SPI	20	—	BOR	1	1/0	—	
PIC16F873A	7168 EnhFI	128	192	22	28SP, 28SO, 28SS, 28ML	5x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	—	BOR	1	2/0	—	
PIC16F874A	7168 EnhFI	128	192	33	40P, 44ML, 44L, 44PT	8x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	—	BOR	1	2/0	—	PSP
PIC16F876A	14336 EnhFI	256	368	22	28SP, 28SO, 28SS, 28ML	5x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	—	BOR	1	2/0	—	
PIC16F877A	14336 EnhFI	256	368	33	40P, 44ML, 44L, 44PT	8x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	20	—	BOR	1	2/0	—	PSP
PIC16F88	7168 EnhFI	256	368	16	18P, 18SO, 20SS, 28ML	7x10-bit	2	1-16 bit, 2-8 bit, 1-WDT	AUSART, I <sup>2</sup> C/SPI	20	8 MHz	BOR	1	1/0	✓	

\*Contact Microchip Technology for availability date.

\*\* Requires ICD specific device with header module – refer to Development Tools.

High Performance 8-Bit PICmicro® Microcontroller Family																
Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
PIC18FXXX Flash MCUs (x16): Upwardly Compatible with PIC18CXXX/PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C Compiler Efficient Instruction Set, Software Stack Capability, Table Read/Write, 10 MIPS, 4x PLL, Switchable Oscillator Sources, 25 mA Source/Sink per I/O, ICSP™ (except ROM)																
PIC18C601	ROM-less	—	1536	26	64PT, 68L	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI	25	—	—	—	2/0	—	256KB EMA, Bootloader RAM
PIC18C801	ROM-less	—	1536	37	80PT, 84L	12x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI	25	—	—	—	2/0	—	2MB EMA, Bootloader RAM
PIC18F1220	4096 EnhFI	256	256	16	18P, 18SO, 20SS, 28ML	7x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	EUSART	40	8 MHz	PBOR/PLVD	1	0/1	✓	
PIC18F1320	8192 EnhFI	256	256	16	18P, 18SO, 20SS, 28ML	7x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	EUSART	40	8 MHz	PBOR/PLVD	1	0/1	✓	
PIC18F2220	4096 EnhFI	256	512	25	28SP, 28SO	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	2/0	✓	
PIC18F2320	8192 EnhFI	256	512	25	28SP, 28SO	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	2/0	✓	
PIC18F2331	8192 EnhFI	256	768	24	28SP, 28SO	5x10-bit, 200 ksps	—	3-16 bit, 1-8 bit, 1-WDT	EUSART, I <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	2/0	—	6 14-bit Motor Control PWMs, 2-ch Quadrature Encoder
PIC18F2410	16384 StdFI	—	768	25	28SP, 28SO, 28ML	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2420	16384 EnhFI	256	768	25	28SP, 28SO, 28ML	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2431	16384 EnhFI	256	768	24	28SP, 28SO	5x10-bit, 200 ksps	—	3-16 bit, 1-8 bit, 1-WDT	EUSART, I <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	2/0	—	6 14-bit Motor Control PWMs, 2-ch Quadrature Encoder
PIC18F2439	12288 EnhFI	256	640	21	28SP, 28SO	5x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	—	—	Motor Control Kernel
PIC18F2455*	24576 EnhFI	256	2048	24	28SP, 28SO	11x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	USB 2.0, Mi <sup>2</sup> C/SPI, EUSART	48	8 MHz	PBOR/PLVD	3	1/1	✓	Full Speed USB 2.0 Compliant
PIC18F248	16384 EnhFI	256	768	23	28SP, 28SO	5x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI, CAN 2.0B	40	—	PBOR/PLVD	1	1/0	—	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptable filters, 2 filter masks
PIC18F2480*	16384 EnhFI	256	768	25	28SP, 28SO, 28ML	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, Mi <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/0	✓	ECAN
PIC18F2510	32768 StdFI	—	1536	25	28SP, 28SO, 28ML	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2515	49152 StdFI	—	3968	25	28SP, 28SO	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2520	32768 EnhFI	256	1536	25	28SP, 28SO, 28ML	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2525	49152 EnhFI	1024	3968	25	28SP, 28SO	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2539	24576 EnhFI	256	1408	21	28SP, 28SO	5x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	—	—	Motor Control Kernel



## High Performance 8-Bit PICmicro® Microcontroller Family

Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
PIC18FXXX Flash MCUs (x16): Upwardly Compatible with PIC18CXXX/PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C Compiler Efficient Instruction Set, Software Stack Capability, Table Read/Write, 10 MIPS, 4x PLL, Switchable Oscillator Sources, 25 mA Source/Sink per I/O, ICSP™ (except ROM) (continued)																
PIC18F2550*	32768 EnhFI	256	2048	24	28SP, 28SO	11x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	USB 2.0, MI <sup>2</sup> C/SPI, EUSART	48	8 MHz	PBOR/PLVD	3	1/1	✓	Full Speed USB 2.0 Compliant
PIC18F258	32768 EnhFI	256	1536	23	28SP, 28SO	5x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI, CAN 2.0B	40	—	PBOR/PLVD	1	1/0	—	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks
PIC18F2580*	32768 EnhFI	256	1536	25	28SP, 28SO, 28ML	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, MI <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/0	✓	ECAN
PIC18F2585	49152 EnhFI	1024	3328	25	28SP, 28SO	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/0	—	ECAN
PIC18F2610	65536 StdFI	—	3968	25	28SP, 28SO	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2620	65536 EnhFI	1024	3968	25	28SP, 28SO	10x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/0	✓	
PIC18F2680	65536 EnhFI	1024	3328	25	28SP, 28SO	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, MI <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/0	—	ECAN
PIC18F4220	4096 EnhFI	256	512	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	1/1	✓	PSP
PIC18F4320	8192 EnhFI	256	512	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	1/1	✓	PSP
PIC18F4331	8192 EnhFI	256	768	36	40P, 44ML, 44PT	9x10-bit 200 ksps	—	3-16 bit, 1-8 bit, 1-WDT	EUSART, I <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	2/0	—	8 14-bit Motor Control PWMs, 2-ch Quadrature Encoder
PIC18F4410	16384 StdFI	—	768	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4420	16384 EnhFI	256	768	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4431	16384 EnhFI	256	768	36	40P, 44ML, 44PT	9x10-bit 200 ksps	—	3-16 bit, 1-8 bit, 1-WDT	EUSART, I <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	1	2/0	—	8 14-bit Motor Control PWMs, 2-ch Quadrature Encoder
PIC18F4439	12288 EnhFI	256	640	32	40P, 44ML, 44PT	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	—	—	Motor Control Kernel
PIC18F4455*	24576 EnhFI	256	2048	35	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	USB 2.0, MI <sup>2</sup> C/SPI, EUSART	48	8 MHz	PBOR/PLVD	3	2/0	✓	Full Speed USB 2.0 Compliant, Streaming Port
PIC18F448	16384 EnhFI	256	768	34	40P, 44L, 44PT	8x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	AUSART, MI <sup>2</sup> C/SPI, CAN 2.0B	40	—	PBOR/PLVD	1	1/1	—	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks, PSP
PIC18F4480*	16384 EnhFI	256	768	36	40P, 44ML, 44PT	11x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, MI <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/1	✓	ECAN
PIC18F4520	32768 EnhFI	256	1536	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP

**Current PICmicro® MCU  
Family Products**

<b>High Performance 8-Bit PICmicro® Microcontroller Family</b>																
Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
<b>PIC18FXXX Flash MCUs (x16): Upwardly Compatible with PIC18CXXX/PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C Compiler Efficient Instruction Set, Software Stack Capability, Table Read/Write, 10 MIPS, 4x PLL, Switchable Oscillator Sources, 25 mA Source/Sink per I/O, ICSP™ (except ROM) (continued)</b>																
PIC18F4510	32768 StdFI	—	1536	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4515	49152 StdFI	—	3968	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4525	49152 EnhFI	1024	3968	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4539	24576 EnhFI	256	1408	32	40P, 44ML, 44PT	8x10-bit	—	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	—	—	Motor Control Kernel
PIC18F458	32768 EnhFI	256	1536	34	40P, 44L, 44PT	8x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	AUSART, Mi <sup>2</sup> C/SPI, CAN 2.0B	40	—	PBOR/PLVD	1	1/1	—	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks, PSP
PIC18F4580*	32768 EnhFI	256	1536	36	40P, 44ML, 44PT	11x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, Mi <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/1	✓	ECAN
PIC18F4550*	32768 EnhFI	256	2048	35	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	USB 2.0, Mi <sup>2</sup> C/SPI, EUSART	48	8 MHz	PBOR/PLVD	3	1/1	✓	Full Speed USB 2.0 Compliant, Streaming Port
PIC18F4585	49152 EnhFI	1024	3328	36	40P, 44ML, 44PT	11x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, Mi <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/1	—	ECAN
PIC18F4610	65536 StdFI	—	3968	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4620	65536 EnhFI	1024	3968	36	40P, 44ML, 44PT	13x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, Mi <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	1/1	✓	PSP
PIC18F4680	65536 EnhFI	1024	3328	36	40P, 44ML, 44PT	11x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	CAN 2.0B, Mi <sup>2</sup> C/SPI, EUSART	40	8 MHz	PBOR/PLVD	3	1/1	✓	ECAN
PIC18F6310	8192 StdFI	—	768	54	64PT	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	Mi <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	3/0	✓	EMA
PIC18F6410	16384 StdFI	—	768	54	64PT	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	Mi <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	3/0	✓	EMA
PIC18F6390	8192 StdFI	—	768	50	64PT	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	Mi <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	2/0	✓	LCD: up to 128 Segments
PIC18F6490	16384 StdFI	—	768	50	64PT	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	Mi <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	2/0	✓	LCD: up to 128 Segments
PIC18F6520	32768 EnhFI	1024	2048	52	64PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x AUSART, Mi <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	5/0	—	PSP
PIC18F6525	49152 EnhFI	1024	3840	53	64PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, Mi <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	2/3	—	PSP

## High Performance 8-Bit PICmicro® Microcontroller Family

Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital		Max. Speed MHz	IntOSC	BOR/PBOR/PLVD	ICD # of Breakpoints	CCP/ECCP	nW	Other Features
						ADC Ch	Comp.	Timers/WDT	Serial I/O							
PIC18FXXX Flash MCUs (x16): Upwardly Compatible with PIC18CXXX/PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C Compiler Efficient Instruction Set, Software Stack Capability, Table Read/Write, 10 MIPS, 4x PLL, Switchable Oscillator Sources, 25 mA Source/Sink per I/O, ICSP™ (except ROM) (continued)																
PIC18F6585	49152 EnhFI	1024	3328	53	64PT, 68L	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI, CAN 2.0B	40	—	PBOR/PLVD	1	1/1	—	ECAN
PIC18F6621	65536 EnhFI	1024	3840	53	64PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, MI <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	2/3	—	PSP
PIC18F6627*	98304 EnhFI	1024	3936	54	64PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, 2x MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/3	✓	PSP
PIC18F6680	65536 EnhFI	1024	3328	53	64PT, 68L	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI, CAN 2.0B	40	—	PBOR/PLVD	1	1/1	—	ECAN
PIC18F6720	131072 EnhFI	1024	3840	52	64PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x AUSART, MI <sup>2</sup> C/SPI	25	—	PBOR/PLVD	1	5/0	—	PSP
PIC18F6722*	131072 EnhFI	1024	3936	54	64PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, 2x MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/3	✓	PSP
PIC18F8310	8192 StdFI	—	768	70	80PT	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	MI <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	3/0	✓	EMA
PIC18F8410	16384 StdFI	—	768	70	80PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	MI <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	3/0	✓	EMA
PIC18F8390	8192 StdFI	—	768	66	80PT	12x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	MI <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	2/0	✓	LCD: up to 192 Segments
PIC18F8490	16384 StdFI	—	768	66	80PT	12x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	MI <sup>2</sup> C/SPI, EUSART, AUSART	40	8 MHz	PBOR/PLVD	3	2/0	✓	LCD: up to 192 Segments
PIC18F8520	32768 EnhFI	1024	2048	68	80PT	16x10-bit	2	2-8 bit, 3-16 bit, 1-WDT	2x AUSART, MI <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	5/0	—	PSP, EMA
PIC18F8525	49152 EnhFI	1024	3840	69	80PT	16x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, MI <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	2/3	—	PSP, EMA
PIC18F8585	49152 EnhFI	1024	3328	69	80PT	16x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI, CAN2.0B	40	—	PBOR/PLVD	1	1/1	—	ECAN, EMA
PIC18F8621	65536 EnhFI	1024	3840	69	80PT	16x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, MI <sup>2</sup> C/SPI	40	—	PBOR/PLVD	1	2/3	—	PSP, EMA
PIC18F8627*	98304 EnhFI	1024	3936	70	80PT	16x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, 2x MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/3	✓	PSP, EMA
PIC18F8680	65536 EnhFI	1024	3328	69	80PT	16x10-bit	2	3-16 bit, 1-8 bit, 1-WDT	EUSART, MI <sup>2</sup> C/SPI, CAN2.0B	40	—	PBOR/PLVD	1	1/1	—	ECAN, EMA
PIC18F8720	131072 EnhFI	1024	3840	68	80PT	16x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x AUSART, MI <sup>2</sup> C/SPI	25	—	PBOR/PLVD	1	5/0	—	PSP, EMA
PIC18F8722*	131072 EnhFI	1024	3936	70	80PT	16x10-bit	2	3-16 bit, 2-8 bit, 1-WDT	2x EUSART, 2x MI <sup>2</sup> C/SPI	40	8 MHz	PBOR/PLVD	3	2/3	✓	PSP, EMA

\*Contact Microchip Technology for availability date.

## FOCUSED SOLUTIONS - PICmicro® MICROCONTROLLER FAMILY PRODUCTS

Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog Peripherals	Digital Peripherals	Max. Speed MHz	ICD # of Breakpoints	Function-Specific Features					Development Boards
										ISO-16845 Tested	Transmit Buffers	Receive Buffers	Configurable RX/TX	Acceptance Filters/Mask	
<b>Connectivity Solutions - CAN</b>															
PIC18F248	16384 EnhFI	256	768	23	28SP, 28SO	ADC	AUSART, CCP	40	1	Yes	3	2	—	6/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F2480*	16384 EnhFI	256	768	25	28SP, 28SO, 28ML	ADC	EUSART, CCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F258	32768 EnhFI	256	1536	23	28SP, 28SO	ADC	AUSART, CCP	40	1	Yes	3	2	—	6/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F2580*	32768 EnhFI	256	1536	25	28SP, 28SO, 28ML	ADC	EUSART, CCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F2585	49152 EnhFI	1024	3328	25	28SP, 28SO	ADC	EUSART, CCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F2680	65536 EnhFI	1024	3328	25	28SP, 28SO	ADC	EUSART, CCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F448	16384 EnhFI	256	768	34	40P, 44PT, 44L	ADC/Comp	EUSART, CCP/ECCP	40	1	Yes	3	2	—	6/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F4480*	16384 EnhFI	256	768	36	44PT, 44ML	ADC/Comp	EUSART, CCP/ECCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F458	32768 EnhFI	256	1536	34	40P, 44PT, 44L	ADC/Comp	EUSART, CCP/ECCP	40	1	Yes	3	2	—	6/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F4580*	32768 EnhFI	256	1536	36	44PT, 44ML	ADC/Comp	EUSART, CCP/ECCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F4585	49152 EnhFI	1024	3328	36	40P, 44PT, 44ML	ADC/Comp	EUSART, CCP/ECCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F4680	65536 EnhFI	1024	3328	36	40P, 44PT, 44ML	ADC/Comp	EUSART, CCP/ECCP	40	3	Planned	3	2	6	16/2	DM163011 PICDEM™ CAN-LIN 2
PIC18F6585	49152 EnhFI	1024	3328	53	64PT, 68L	ADC/Comp	EUSART, CCP/ECCP	40	1	Yes	3	2	6	16/2	DM163015 PICDEM™ CAN-LIN 3
PIC18F6680	65536 EnhFI	1024	3328	53	64PT, 68L	ADC/Comp	EUSART, CCP/ECCP	40	1	Yes	3	2	6	16/2	DM163015 PICDEM™ CAN-LIN 3
PIC18F8585	49152 EnhFI	1024	3328	69	80PT	ADC/Comp	EUSART, CCP/ECCP	40	1	Yes	3	2	6	16/2	DM163015 PICDEM™ CAN-LIN 3
PIC18F8680	65536 EnhFI	1024	3328	69	80PT	ADC/Comp	EUSART, CCP/ECCP	40	1	Yes	3	2	6	16/2	DM163015 PICDEM™ CAN-LIN 3

Refer to Design pages on [www.microchip.com](http://www.microchip.com) for further detail.

Product	MAC	PHY	TX/RX Dual Port RAM Buffer	Interrupts	LEDs	Operating Voltage (V)	Temp. Range (°C)	Max. Speed MHz	Serial	Features	Package	Development Boards
<b>Ethernet</b>												
MCP22S80*	Yes	Yes	8KB	2	2	3.3	-40 to +85	25	SPI	Loop back test modes, auto-polarity	28-Pin SO, 28-Pin SS, 28-Pin ML	

\*Contact Microchip Technology Inc. for availability.

Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog Peripherals	Digital Peripherals	Max. Speed MHz	ICD # of Breakpoints	Function-Specific Features					Development Boards
										Compliant	Speed	# of Endpoints	USB Buffer (bytes)	Streaming Port	
<b>Connectivity Solutions - USB</b>															
PIC16C745	14336 OTP	—	256	22	28SP, 28SO, 28JW	ADC	UART	24	—	USB 1.1	Low Speed (1.5Mbit/s)	16	64	—	DM163010, PICDEM™ USB
PIC16C765	14336 OTP	—	256	33	40P, 40JW, 44L, 44PT	ADC	UART	24	—	USB 1.1	Low Speed (1.5Mbit/s)	16	64	—	DM163010, PICDEM™ USB
PIC18F2455*	24576 EnhFI	256	2048	24	28SP, 28SO, 28ML	ADC/Comp	EUSART, MI <sup>2</sup> C/SPI	48	3	USB 2.0	Full Speed (12Mbit/s)	16	1024	—	
PIC18F2550*	32768 EnhFI	256	2048	24	28SP, 28SO, 28ML	ADC/Comp	EUSART, MI <sup>2</sup> C/SPI	48	3	USB 2.0	Full Speed (12Mbit/s)	16	1024	—	
PIC18F4455*	24576 EnhFI	256	2048	36	40P, 44PT, 44ML	ADC/Comp	EUSART, MI <sup>2</sup> C/SPI	48	3	USB 2.0	Full Speed (12Mbit/s)	16	1024	Yes	
PIC18F4550*	32768 EnhFI	256	2048	36	40P, 44PT, 44ML	ADC/Comp	EUSART, MI <sup>2</sup> C/SPI	48	3	USB 2.0	Full Speed (12Mbit/s)	16	1024	Yes	

\*Contact Microchip Technology Inc. for availability.  
Refer to Design pages on [www.microchip.com](http://www.microchip.com) for further details.

<b>Connectivity Solutions - ACTIVE RF</b>															
<b>rfPIC® Microcontrollers with UHF RF Transmitter, ICSP™</b>															
Product	Program Memory (Bytes)	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog Peripherals	Digital Peripherals	Max. Speed (MHz)	Function-Specific Specifications					Development Boards	
									Modulation	Data Rate (kbps)	Output Power (dBm)	Operating Voltage (V)	Frequency Range (MHz)		
rfPIC12C509AF	1536 OTP	—	41	6	20JW, 20SS	—	1-8 bit Timer, WDT	4	FSK, ASK	40	2	2.5-5.5	310-440		
rfPIC12C509AG	1536 OTP	—	41	6	18JW, 18SO	—	1-8 bit Timer, WDT	4	ASK	40	2	2.5-5.5	310-440		
rfPIC12F675F	1792 StdFI	128	64	6	20SS	4x10-bit A/D, Comp	1-8 bit, 1-16 bit Timer, WDT	20	FSK, ASK	40	10	2.0-5.5	380-450	DV164102, rfPIC® Development Kit	
rfPIC12F675H	1792 StdFI	128	64	6	20SS	4x10-bit A/D, Comp	1-8 bit, 1-16 bit Timer, WDT	20	FSK, ASK	40	10	2.0-5.5	850-930	DV164102, rfPIC® Development Kit	
rfPIC12F675K	1792 StdFI	128	64	6	20SS	4x10-bit A/D, Comp	1-8 bit, 1-16 bit Timer, WDT	20	FSK, ASK	40	10	2.0-5.5	290-350	DV164102, rfPIC® Development Kit	
<b>rfHCS KEELoC® Encoders with UHF RF Transmitter</b>															
Product	Transmission Code Length Bits	Code Hopping Bits	Programmable Encryption Key Bits	Packages	Protocols	Function Codes	Tunable OSC	CRC	Function-Specific Specifications				Development Boards		
									Modulation	Output Power (dBm)	Operating Voltage (V)	Frequency Range (MHz)			
rfHCS362F	69	32	2 x 64	20SS	PWM, Manchester	4 x 15	✓	✓	FSK, ASK	2	2.2-5.5	310-440	DM303006, KEELoC® Evaluation Kit II		
rfHCS362G	69	32	2 x 64	18SO	PWM, Manchester	4 x 15	✓	✓	ASK	2	2.2-5.5	310-440	DM303006, KEELoC® Evaluation Kit II		
<b>UHF RF Receiver</b>															
Product	Modulation	Data Rate (kbps)	Frequency Range (MHz)	Sensitivity dBm (FSK)	IF Frequency Range (MHz)	Operating Voltage (V)	Package	Development Boards							
rfRXD0420	ASK, FSK, FM	80	300-450	-111	0.455-21.4	2.5-5.5	32LQ	DV164102, rfPIC® Development Kit							
rfRXD0920	ASK, FSK, FM	80	800-930	-109	0.455-21.4	2.5-5.5	32LQ	DV164102, rfPIC® Development Kit							

Refer to Design pages on [www.microchip.com](http://www.microchip.com) for further details.



**Focused Solutions**  
**PICmicro<sup>®</sup> MCU Products**

Product	Program Memory Bytes	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog Peripherals	Digital Peripherals	Max. Speed MHz	ICD # of Breakpoints	LCD Function-Specific Features					Development Boards
										COMxSegment = # Segments	Drive in Sleep	Software Configurable Driver Pins	Direct Drive	Intl. Charge Pump	
<b>LCD Solutions</b>															
PIC16C925	7168 OTP	—	176	52	64PT, 68CL, 68L	ADC	I <sup>2</sup> C/SPI	20	—	4x29 (116)	Yes	No	Yes	Yes	DM163003, PICDEM™ 3 LCD
PIC16C926	14336 OTP	—	336	52	64PT, 68CL, 68L	ADC	I <sup>2</sup> C/SPI	20	—	4x29 (116)	Yes	No	Yes	Yes	DM163003, PICDEM™ 3 LCD
PIC16F913*	7168 EnhFI	256	256	25	28P, 28SO, 28SS, 28QFN	ADC/Comp	AUSART, I <sup>2</sup> C/SPI	20	1	4x15 (60)	Yes	Yes	Yes	No	
PIC16F914*	7168 EnhFI	256	256	36	40P, 44TQFP, 44QFN	ADC/Comp	AUSART, I <sup>2</sup> C/SPI	20	1	4x24 (96)	Yes	Yes	Yes	No	
PIC16F916*	14336 EnhFI	256	352	25	28P, 28SO, 28SS, 28QFN	ADC/Comp	AUSART, I <sup>2</sup> C/SPI	20	1	4x15 (60)	Yes	Yes	Yes	No	
PIC16F917*	14336 EnhFI	256	352	36	40P, 44TQFP, 44QFN	ADC/Comp	AUSART, I <sup>2</sup> C/SPI	20	1	4x24 (96)	Yes	Yes	Yes	No	
PIC18F6390	8192 StdFI	—	768	50	64PT	ADC/Comp	EUSART, AUSART, MI <sup>2</sup> C/SPI	40	3	4x32 (128)	Yes	Yes	Yes	No	DM163028, PICDEM™ LCD Demo Board
PIC18F6490	16384 StdFI	—	768	50	64PT	ADC/Comp	EUSART, AUSART, MI <sup>2</sup> C/SPI	40	3	4x32 (128)	Yes	Yes	Yes	No	DM163028, PICDEM™ LCD Demo Board
PIC18F8390	8192 StdFI	—	768	66	80PT	ADC/Comp	EUSART, AUSART, MI <sup>2</sup> C/SPI	40	3	4x48 (192)	Yes	Yes	Yes	No	DM163028, PICDEM™ LCD Demo Board
PIC18F8490	16384 StdFI	—	768	66	80PT	ADC/Comp	EUSART, AUSART, MI <sup>2</sup> C/SPI	40	3	4x48 (192)	Yes	Yes	Yes	No	DM163028, PICDEM™ LCD Demo Board

\*Contact Microchip Technology Inc. for availability.  
Refer to Design pages on [www.microchip.com](http://www.microchip.com) for further details.

Product	Program Memory Bytes	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog Peripherals	Digital Peripherals	Max. Speed MHz	ICD # of Breakpoints	Function-Specific Features					Other Features
										Timers	Input Capture	Output Comp/Std PWM	Motor Control PWM	Quadrature Encoder	
<b>Motor Control Solutions</b>															
PIC12F683	3584 StdFI	256	128	6	8P, 8SN, 8MF	ADC/Comp	—	20	1	1-16 bit, 2-8 bit, WDT	1	1x10 bit	—	—	PICkit™ 1
PIC16F684	3584 EnhFI	256	128	12	14P, 14SL, 14ST	ADC/Comp	—	20	1	1-16 bit, 2-8 bit, WDT	1	4x10 bit	—	—	PICkit™ 1
PIC16F716	3584 StdFI	—	128	13	18P, 18SO, 20SS	ADC	—	20	1	1-16 bit, 2-8 bit, WDT	1	4x10 bit	—	—	DM163022, PICDEM™ 2 Plus
PIC16F737	7168 StdFI	—	368	25	28SP, 28SO, 28SS, 28ML	ADC/Comp	USART, MI <sup>2</sup> C/SPI	20	1	1-16 bit, 2-8 bit, WDT	3	3x10 bit	—	—	DM163022, PICDEM™ 2 Plus
PIC16F747	7168 StdFI	—	368	36	40P, 44PT, 44ML	ADC/Comp	USART, MI <sup>2</sup> C/SPI	20	1	1-16 bit, 2-8 bit, WDT	3	3x10 bit	—	—	DM163022, PICDEM™ 2 Plus
PIC16F767	14336 StdFI	—	368	25	28SP, 28SO, 28SS, 28ML	ADC/Comp	USART, MI <sup>2</sup> C/SPI	20	1	1-16 bit, 2-8 bit, WDT	3	3x10 bit	—	—	DM163022, PICDEM™ 2 Plus
PIC16F777	14336 StdFI	—	368	36	40P, 44PT, 44ML	ADC/Comp	USART, MI <sup>2</sup> C/SPI	20	1	1-16 bit, 2-8 bit, WDT	3	3x10 bit	—	—	DM163022, PICDEM™ 2 Plus
PIC18F1230*	4096 EnhFI	128	256	16	18P, 18SO, 20SS, 28ML	ADC/Comp	EUSART	40	3	2-16 bit, WDT	—	—	6	—	DM183011 PICDEM™ MC
PIC18F1330*	8192 EnhFI	128	256	16	18P, 18SO, 20SS, 28ML	ADC/Comp	EUSART	40	3	2-16 bit, WDT	—	—	6	—	DM183011 PICDEM™ MC
PIC18F2331	8192 EnhFI	256	768	22	28SP, 28SO	200 ksps ADC	EUSART, I <sup>2</sup> C/SPI	40	1	3-16 bit, 1-8 bit, WDT	3	2x10 bit	6	Yes	DM183011, PICDEM™ MC
PIC18F2431	16384 EnhFI	256	768	22	28SP, 28SO	200 ksps ADC	EUSART, I <sup>2</sup> C/SPI	40	1	3-16 bit, 1-8 bit, WDT	3	2x10 bit	6	Yes	DM183011, PICDEM™ MC
PIC18F2439	12288 EnhFI	256	640	21	28SP, 28SO	ADC	AUSART, MI <sup>2</sup> C/SPI	40	1	3-16 bit, WDT	—	2x10 bit	—	—	DM183010, Motor Control Kit
PIC18F2539	24576 EnhFI	256	1408	21	28SP, 28SO	ADC	AUSART, MI <sup>2</sup> C/SPI	40	1	3-16 bit, WDT	—	2x10 bit	—	—	DM183010, Motor Control Kit
PIC18F4331	8192 EnhFI	256	768	34	40P, 44PT, 44ML	200 ksps ADC	EUSART, I <sup>2</sup> C/SPI	40	1	3-16 bit, 1-8 bit, WDT	3	2x10 bit	8	Yes	DM183011, PICDEM™ MC
PIC18F4431	16384 EnhFI	256	768	34	40P, 44PT, 44ML	200 ksps ADC	EUSART, I <sup>2</sup> C/SPI	40	1	3-16 bit, 1-8 bit, WDT	3	2x10 bit	8	Yes	DM183011, PICDEM™ MC
PIC18F4439	12228 EnhFI	256	640	32	40P, 44PT, 44ML	ADC	AUSART, MI <sup>2</sup> C/SPI	40	1	3-16 bit, WDT	—	2x10 bit	—	—	DM183010, Motor Control Kit
PIC18F4539	24576 EnhFI	256	1408	32	40P, 44PT, 44ML	ADC	AUSART, MI <sup>2</sup> C/SPI	40	1	3-16 bit, WDT	—	2x10 bit	—	—	DM183010, Motor Control Kit

\*Contact Microchip Technology Inc. for availability.  
Refer to Design pages on [www.microchip.com](http://www.microchip.com) for further details.

<b>Power Managed Solutions Featuring nanoWatt Technology</b>			
Minimum nanoWatt Feature Set	6-20 Pin	28-40 Pin	60-80 Pin
Internal Oscillator	PIC16F627A, PIC16F628A, PIC16F648A		
Quick Start-up (4 MHz)			
Power Managed Modes			
Sleep			
Low Power Timer1			
Low Power Watchdog			
Additional Features to Minimum			
IntOSC: Quick Start-up (Two-speed) and Clock Divide (8 MHz) BOR	PIC16F818, PIC16F819		
IntOSC: Quick Start-up (Two-speed), Fail-safe Clock Monitor and Clock Divide (8 MHz) Ultra Low Power Wake-up	PIC12F683 PIC16F684, PIC16F688		
IntOSC: Quick Start-up (Two-speed), Fail-safe Clock Monitor and Clock Divide (8 MHz) Ultra Low Power Wake-up Low Power Watchdog – Enhanced Software Controlled BOR	PIC16F631, PIC16F677, PIC16F685, PIC16F687, PIC16F689, PIC16F785		
IntOSC: Quick Start-up (Two-speed), Fail-safe Clock Monitor and Clock Divide (8 MHz) Ultra Low Power Wake-up Wake-up Reset Low Power Watchdog – Enhanced PLVD Software Controlled BOR	PIC12F635 PIC16F636, PIC16F639		
IntOSC: Quick Start-up (Two-speed), Fail-safe Clock Monitor and Selectable Clock (31 kHz-8 MHz) Power Managed Modes: RC Run Modes PLVD PBOR	PIC16F88, PIC16F87	PIC16F777, PIC16F767, PIC16F747, PIC16F737, PIC16F917, PIC16F916, PIC16F914, PIC16F913	
IntOSC: Quick Start-up (Two-speed), Fail-safe clock monitor and Selectable Clock (31 kHz-8 MHz) Power Managed Modes: Multiple Idle Modes and RC Run Modes PLVD PBOR	PIC18F1320, PIC18F1220	PIC18F4220, PIC18F4320, PIC18F2220, PIC18F2320, PIC18F4620, PIC18F4610, PIC18F4525, PIC18F4515, PIC18F2620, PIC18F2610, PIC18F2525, PIC18F2515, PIC18F4520, PIC18F4510, PIC18F2520, PIC18F2510, PIC18F4420, PIC18F4410, PIC18F2420, PIC18F2410, PIC18F2331, PIC18F2431, PIC18F4431, PIC18F4331, PIC18F2550, PIC18F2585, PIC18F2680, PIC18F4455, PIC18F4550, PIC18F4585, PIC18F4680, PIC18F4580, PIC18F2680, PIC18F2580	PIC18F8490, PIC18F8410, PIC18F8390, PIC18F8310, PIC18F6490, PIC18F6410, PIC18F6390, PIC18F6310, PIC18F8722, PIC18F8627, PIC18F8622, PIC18F8527, PIC18F8522, PIC18F8410, PIC18F8310, PIC18F6722, PIC18F6622, PIC18F6527, PIC18F6522

For additional details, please refer to device data sheets and design pages on [www.microchip.com](http://www.microchip.com).

# MATURE – PICmicro<sup>®</sup> MICROCONTROLLER FAMILY PRODUCTS

Not recommended for new designs.

Please use a device from the recommended column for new designs.

Product	Program Memory (Bytes)	Package Size	Recommended Design-In Device	Product	Program Memory (Bytes)	Package Size	Recommended Design-In Device
PIC12C508	768	8	PIC12F508	PIC16C77	14336	40	PIC16F77
PIC12C509	1536	8	PIC12F509	PIC16C923	7168	68	PIC16C925
PIC12C671	1536	8	PIC12F675	PIC16C924	7168	68	PIC16C925
PIC12C672	3584	8	PIC12F683	PIC16CE623	896	18	PIC16F627A
PIC12CE673	1792	8	PIC12F675	PIC16CE624	1792	18	PIC16F627A
PIC12CE674	3584	8	PIC12F683	PIC16CE625	3584	18	PIC16F628A
PIC12CE518	768	8	PIC12F629	PIC16CR54A	768	18	PIC16CR54C
PIC12CE519	1536	8	PIC12F629	PIC16CR54C	768	18	PIC16F54
PIC12CR509A	1536	8	PIC12F509	PIC16CR57C	3072	28	PIC16F57
PIC16C54	768	18	PIC16F54	PIC16CR83	896	18	PIC16F84A
PIC16C54A	768	18	PIC16F54	PIC16CR84	1792	18	PIC16F84A
PIC16C55	768	28	PIC16C55A	PIC16F627	1792	18	PIC16F627A
PIC16C56	1536	18	PIC16C56A	PIC16F628	3584	18	PIC16F628A
PIC16C57	3072	28	PIC16F57	PIC16F83	896	18	PIC16F84A
PIC16C62A	3584	28	PIC16C62B or PIC16F72	PIC16F84	1792	18	PIC16F84A
PIC16C620	896	18	PIC16C620A	PIC16F873	7168	28	PIC16F873A
PIC16C621	1792	18	PIC16C621A	PIC16F874	7168	28	PIC16F874A
PIC16C622	3584	18	PIC16C622A	PIC16F876	14336	40	PIC16F876A
PIC16C63	7168	28	PIC16C63B or PIC16F73	PIC16F877	14336	40	PIC16F877A
PIC16C64A	3584	40	PIC16F74	PIC17C42A	4096	40	PIC18F4220
PIC16C642	7168	28	PIC16F72	PIC17C43	8192	40	PIC18F4320
PIC16C65A	7168	40	PIC16C65B or PIC16F74	PIC17C44	16384	40	PIC18F442
PIC16C66	14336	28	PIC16F76	PIC17C752	16384	68	PIC18F6520
PIC16C662	7168	40	PIC16F74	PIC17C756A	32768	68	PIC18F6520
PIC16C67	14336	40	PIC16F77	PIC17C762	16384	84	PIC18F8520
PIC16C71	1792	18	PIC16F716	PIC17C766	32768	84	PIC18F8520
PIC16C72	3584	28	PIC16C72A or PIC16F72	PIC18C242	16384	28	PIC18F2420
PIC16C710	896	18	PIC16F716	PIC18C252	32768	28	PIC18F2520
PIC16C711	1792	18	PIC16F716	PIC18C442	16384	40	PIC18F4420
PIC16C712	1792	18	PIC16F716	PIC18C452	32768	40	PIC18F4520
PIC16C715	3584	18	PIC16F716	PIC18C658	32768	68	PIC18F6585
PIC16C716	3584	18	PIC16F716	PIC18C858	32768	84	PIC18F8585
PIC16C73A	7168	28	PIC16C73B or PIC16F73	PIC18F6620	65536	64	PIC18F6621
PIC16C74A	7168	40	PIC16C74B or PIC16F74	PIC18F8620	65536	80	PIC18F8621
PIC16C76	14336	28	PIC16F76	PIC18F242	16384	28	PIC18F2420
PIC16C505	1536	14	PIC16F505	PIC18F252	32768	28	PIC18F2520
PIC16C54C	768	18	PIC16F54	PIC18F442	16384	40	PIC18F4420
PIC16C57C	3072	28	PIC16F57	PIC18F452	32768	40	PIC18F4520

## BATTERY MANAGEMENT FAMILY PRODUCTS

Battery Fuel Gauge ICs												
Product	Battery Chemistry	# of Cells	Interface	Data Set	A/D Converter	Programmable Memory	Programmable I/O Functions	Accuracy	Time Base	Temp. Sensor	Packaging	Description
PS501	Li-Ion NimH	2-4 6-12	SMBus	> 1%	16-bit Sigma-Delta	16-Kbytes Flash, 256 bytes EEPROM	12 GPIO	N/A	On-chip	On-chip external	28-pin SSOP	Single chip reprogrammable battery manager IC reports capacity, current, temperature, voltage and other status for Li-Ion or Nickel batteries.
PS700	Li-Ion	1 - 2	SMBus v1.1	> 1%	16-bit Sigma-Delta	512 bytes EEPROM	1 A/D input, 2 inputs configurable as GPIO or A/D inputs	N/A	On-chip	On-chip and external	8-pin TSOP	Highly accurate analog front end that measures, stores and reports all of the critical parameters required for rechargeable battery monitoring with a minimum of external components.

Supporting Development Tools are listed in the Development Systems Products Section.



## dsPIC<sup>®</sup> DIGITAL SIGNAL CONTROLLER (DSC) PRODUCTS

Product	Program (FLASH) KBytes	Memory (FLASH) KWords	EE Bytes	SRAM Bytes	Packages	A/D 12-bit 100 KSPS	A/D 10-bit 500 KSPS	Timer 16-bit	Input Cap	Output Comp/Std PWM	Motor Control PWM	Quad Enc.	UART	SPI™	I <sup>2</sup> C™	CAN	Codec Interface	
<b>dsPIC30F Motor Control and Power Conversion Family</b>																		
dsPIC30F2010	12	4	1024	512	28SOG, 28SPG, 28MMG	—	6 ch	3	4	2	6	✓	1	1	1	—		
dsPIC30F4011	48	16	1024	2048	40PG, 44PTG, 44MMG	—	6 ch	5	4	4	6	✓	2	1	1	1		
dsPIC30F4012	48	16	1024	2048	28SOG, 28SPG	—	6 ch	5	4	2	6	✓	1	1	1	1		
dsPIC30F6010	144	48	4096	8192	80PF	—	16 ch	5	8	8	8	✓	2	2	1	2		
<b>dsPIC30F General Purpose Family</b>																		
dsPIC30F3014	24	8	1024	2048	40PG, 44PTG	13 ch	—	3	2	2	No	No	2	1	1	—		
dsPIC30F4013	48	16	1024	2048	40PG, 44PTG	13 ch	—	5	4	4	No	No	2	1	1	1	AC97, I <sup>2</sup> S	
dsPIC30F5011	66	22	1024	4096	64PTG	16 ch	—	5	8	8	No	No	2	2	1	2	AC97, I <sup>2</sup> S	
dsPIC30F5013	66	22	1024	4096	80PTG	16 ch	—	5	8	8	No	No	2	2	1	2	AC97, I <sup>2</sup> S	
dsPIC30F6011	132	44	2048	6144	64PF	16 ch	—	5	8	8	No	No	2	2	1	2		
dsPIC30F6012	144	48	4096	8192	64PF	16 ch	—	5	8	8	No	No	2	2	1	2	AC97, I <sup>2</sup> S	
dsPIC30F6013	132	44	2048	6144	80PF	16 ch	—	5	8	8	No	No	2	2	1	2		
dsPIC30F6014	144	48	4096	8192	80PF	16 ch	—	5	8	8	No	No	2	2	1	2	AC97, I <sup>2</sup> S	
<b>dsPIC30F Sensor Family</b>																		
dsPIC30F2011	12	4	0	1024	18SOG, 18PG	8 ch	—	3	2	2	No	No	1	1	1	—		
dsPIC30F2012	12	4	0	1024	28SOG, 28SPG	10 ch	—	3	2	2	No	No	1	1	1	—		
dsPIC30F3012	24	8	1024	2048	18SOG, 18PG	8 ch	—	3	2	2	No	No	1	1	1	—		
dsPIC30F3013	24	8	1024	2048	28SOG, 28SPG	10 ch	—	3	2	2	No	No	2	1	1	—		

**RADIO FREQUENCY PRODUCTS**

<b>PASSIVE</b>								
<b>microID® RFID Tagging Devices</b>								
<b>Product</b>	<b>Carrier Frequency</b>	<b>Programming</b>	<b>Anticollision</b>	<b>Memory Type</b>	<b>Memory Size</b>	<b>Protocols</b>	<b>Packages</b>	<b>Other</b>
MCRF200	100-150 kHz	Factory	No	OTP	96/128 bits	PSK, FSK, ASK, bi-phase, Manchester, NRZ	W, WF, S, WB, WFB, SB, 1M, 3M, P, SN	–
MCRF202	100-150 kHz	Factory	Yes	OTP	96/128 bits	FSK, ASK, bi-phase, Manchester, NRZ	W, WF, S, WB, WFB, SB, P, SN	Sensor input
MCRF250	100-150 kHz	Factory	Yes	OTP	96/128 bits	PSK, FSK, ASK, bi-phase, Manchester, NRZ	W, WF, S, WB, WFB, SB, 1M, 3M, P, SN	–
MCRF355	13.56 MHz	Contact/Factory	Yes	R/W	154 bits	ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 7M	–
MCRF360	13.56 MHz	Contact/Factory	Yes	R/W	154 bits	ASK Manchester	W, WF, S, WB, WFB, SB, P, SN	100 pF res cap
MCRF450	13.56 MHz	Contactless	Yes	R/W	1 Kbit	PPM, ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 7M	32-bit unique ID user lock control by block
MCRF451	13.56 MHz	Contactless	Yes	R/W	1 Kbit	PPM, ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 7M	100 pF res cap
MCRF452	13.56 MHz	Contactless	Yes	R/W	1 Kbit	PPM, ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 7M	Dual 50 pF res cap
MCRF455	13.56 MHz	Contactless	Yes	R/W	1 Kbit	PPM, ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 7M	50 pF res cap

## SECURE DATA PRODUCTS

KEELOQ® Encoder Devices											
Product	Transmission Code Length Bits	Code Hopping Bits	Programmable Encryption Key Bits	Seed Length	Operating Voltage (V)	Turnable OSC	Function Codes	CRC	Protocols	Other Features	Packages
HCS101	66	—	—	—	3.5 to 13.0	✓	7	No	PWM	Fixed code support for non-secure applications, up to 28-bit serial numbers	8P, 8SN
HCS200	66	32	64	32	3.5 to 13.0	No	7	No	PWM	Entry level, Fixed code support, Battery low indicator	8P, 8SN
HCS201	66	32	64	32	3.5 to 13.0	✓	7	No	PWM	Entry level, Fixed code support, Battery low indicator, Step-up voltage operation	8P, 8SN
HCS300	66	32	64	32	2.0 to 6.3	No	15	No	PWM	LED Drive, Overflow bits, Time-out, Battery low indicator	8P, 8SN
HCS301	66	32	64	32	3.5 to 13.0	No	15	No	PWM	LED Drive, Overflow bits, Time-out, Battery low indicator	8P, 8SN
HCS320	66	32	64	32	3.5 to 13.0	No	16	No	PWM	Shift Operation, LED Drive, Overflow bits, Time-out, Battery low indicator	8P, 8SN
HCS360	67	32	64	48	2.0 to 6.3	No	15	✓	IR Mode, PWM and Manchester	2 independent counters	8P, 8SN
HCS361	67	32	64	48	2.0 to 6.3	No	15	✓	IR Mode, PWM and VPWM	2 independent counters	8P, 8SN
HCS362	69	32	2 x 64	60	2.0 to 6.3	✓	15	✓	PWM and Manchester	Queue counter, PLL interface, Timer bits, Programmable time-out	8P, 8SN, 8ST
HCS365	69	32	2 x 64	2 x 60	2.05 to 5.5	Factory	15	✓	PWM, VPWM PPM and Manchester	Dual Encoder Operation, 4 inputs, Queue counter	8P, 8SM
HCS370	69	32	2 x 64	2 x 60	2.05 to 5.5	Factory	15	✓	PWM, VPWM PPM and Manchester	Step-up voltage regulation, Dual Encoder Operation, 6 inputs, Queue counter	14P, 14SL
HCS410	69	32	2 x 64	60	2.0 to 6.6	✓	7	✓	PWM and Manchester	Self-powered transponder and encoder, Bidirectional authentication, User EEPROM, Queue counter	8P, 8SN, 8ST
KEELOQ® Decoder Devices											
Product	Reception Length Bits	Encoders Supported**		Transmitters Supported	Operating Voltage (V)	Functions		Other Features		Packages	
HCS500	66	HCS200, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS362, HCS365, HCS370, HCS410, HCS412, HCS473		Up to 7	3.0 to 5.5	S0, 15 Serial Functions		Full-featured decoder with serial interface to microcontrollers		8P, 8SM	
HCS512	66	HCS200, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS362, HCS365, HCS370, HCS410, HCS412, HCS473		Up to 4	4.0 to 6.0	S0, S1, S2, S3; VLow, 15 Serial Functions		Single-chip decoder with secure learning		18P, 18SO	
HCS515	66	HCS200, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS362, HCS365, HCS370, HCS410, HCS412, HCS473		Up to 7	4.5 to 5.5	S0, S1, 15 Serial Functions		Full-featured decoder with serial and parallel interface. On-chip 1K transmitter and 1K user EEPROM.		14P, 14SL	

\* Contact Microchip Technology for availability date.

\*\* Requires ICD specific device with header module – refer to Development Tools.