Baseline PIC® Microcontrollers
Ease of Use and Low Total Cost of Ownership

Summary

Baseline PIC microcontrollers have long been the 8-bit microcontroller preferred by engineers around the world for a wide array of applications. Based on Microchip's Baseline Architecture, these PIC microcontrollers utilize a 12-bit program word and provide the right amount of features and options to minimize expenses and get the job done right.

With so many options available, picking the right Baseline Flash PIC microcontroller for an application is quick and easy. The Baseline portfolio ranges in pin-count and peripherals, and provides basic digital functionality as well as digital intelligence with integrated analog peripherals. The PIC10F200, PIC10F202, PIC12F508, PIC12F509 and PIC16F505 offer base digital functionality, scaling from 6 pins to 14 pins. These products are pure digital with a 4 MHz internal oscillator and are the simplest of the baseline portfolio, providing the most inexpensive method of integrating digital intelligence into your application.

The PIC10F204, PIC10F206, PIC10F220, PIC10F222, PIC12F510 and the PIC16F506 provide an increased level of functionality with integrated analog peripherals. Packaged in either a 2x3 DFN or 6-pin SOT-23, the PIC10F204 and PIC10F206 both provide a 4 MHz internal oscillator in addition to an integrated analog comparator. The PIC10F220 and PIC10F222 provide an 8-bit ADC, an increased internal oscillator operating frequency of 8 MHz, as well as an enhanced Device Reset Timer (DRT) with 1.125 ms start-up. The 8-pin PIC12F510, also available in a 2x3 DFN, provides a single comparator as well as an 8-bit ADC, 8 MHz internal oscillator and the enhanced DRT, whereas the 14-pin PIC16F506 offers two comparators in addition to the 8-bit ADC.

These Baseline PIC microcontrollers allow the engineering community an opportunity to use microcontrollers in applications that have historically been void of such devices. Whether it is cost or space constraints, Baseline PIC microcontrollers address these concerns by providing a pricing structure that makes them nearly disposable with form factors that can easily be implemented into the most space constrained designs. For those familiar with microcontrollers or not, Baseline PIC Microcontrollers provide the simplest and most cost-effective solutions to designs that were previously unattainable.

Features

- Most cost effective microcontroller solution
- Ease of Use and Quick Development
  - With a precise 33 instruction set, all PIC10F and Baseline PIC microcontrollers are simple to learn
  - Inexpensive and simple tools: PICkit™ 1 Flash Starter Kit and PICkit 2 Development Programmer
- Multiple Product Options and Easy Migration
  - (6) 6-pin PIC10F microcontrollers
  - (3) 8-pin Baseline Flash PIC microcontrollers
  - (2) 14-pin Baseline Flash PIC microcontrollers
  - 18, 20 and 40-pin Baseline Flash PIC microcontrollers
- Smallest Form Factor Options
  - The 6-pin PIC10F is available in both a SOT-23 and 2x3 DFN
  - The 8-pin PIC12F508, PIC12F509 and PIC12F510 are available in a 2x3 DFN

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Additional Information

- *PIC10F200/202/204/206 Data Sheet*, DS41239
- *PIC10F220/222 Data Sheet*, DS41270
- *PIC12F508/509/16F505 Data Sheet*, DS41236
- *PIC12F510/16F506 Data Sheet*, DS41268
- *PIC16F5X Data Sheet*, DS41213
- *8-bit PIC Microcontroller Solutions Brochure*, DS39630
- *Low Cost Development Tools Guide*, DS51560
- *2006 Product Line Card, DS00890*
- *Microchip Product Selector Guide*, DS00148

Links/Samples/Purchasing Information

- *Web Link:* www.microchip.com/baseline
- *Web Link:* www.microchip.com/startnow
- Online Sampling: www.sample.microchip.com
- Online Purchasing: www.microchipdirect.com

Baseline Flash 8-bit PIC® Microcontroller Family (12-bit Instruction Word)								
Product	Flash Program Memory Bytes (Words)	RAM Bytes	I/O Pins	Analog		Internal Oscillator	Digital	Packages
				ADC	Comp.		Timers/WDT	
PIC10F200	384 (256)	16	4	–	–	4 MHz	1 8-bit, 1 WDT	6OT, 8MC, 8P
PIC10F202	768 (512)	24	4	–	–	4 MHz	1 8-bit, 1 WDT	6OT, 8MC, 8P
PIC10F204	384 (256)	16	4	–	1	4 MHz	1 8-bit, 1 WDT	6OT, 8MC, 8P
PIC10F206	768 (512)	24	4	–	1	4 MHz	1 8-bit, 1 WDT	6OT, 8MC, 8P
PIC10F220	384 (256)	16	4	2 x 8-bit	–	4/8 MHz	1 8-bit, 1 WDT	6OT, 8MC, 8P
PIC10F222	768 (512)	23	4	2 x 8-bit	–	4/8 MHz	1 8-bit, 1 WDT	6OT, 8MC, 8P
PIC12F508	768 (512)	25	6	–	–	4 MHz	1 8-bit, 1 WDT	8MC, 8MS, 8P, 8SN
PIC12F509	1,536 (1,024)	41	6	–	–	4 MHz	1 8-bit, 1 WDT	8MC, 8MS, 8P, 8SN
PIC12F510	1,536 (1,024)	38	6	3 x 8-bit	1	4/8 MHz	1-8-bit, 1 WDT	8MC, 8MS, 8P, 8SN
PIC16F505	1,536 (1,024)	72	12	–	–	4 MHz	1 8-bit, 1 WDT	14P, 14SL, 14ST
PIC16F506	1,536 (1,024)	67	12	3 x 8-bit	2	4/8 MHz	1 8-bit, 1 WDT	14P, 14SL, 14ST
PIC16F54	768 (512)	25	12	–	–	4 MHz	1 8-bit, 1 WDT	18P, 18SO, 20SS
PIC16F57	3,072 (2,048)	72	20	–	–	4 MHz	1 8-bit, 1 WDT	28P, 28SO, 28SS
PIC16F59	3,072 (2,048)	134	32	–	–	4 MHz	1 8-bit, 1 WDT	40P, 44PT

Package Key: MC = 2x3 DFN (8-lead), MS = MSOP, OT = SOT-23, P = PDIP, PT = TQFP, SL = SOIC (.150″), SN (.150″), SO = SOIC, SS = SSOP, ST = TSSOP

www.microchip.com/startnow

Visit our web site for additional product information and to locate your local sales office.

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