

PIC18F “K22” Family of Microcontrollers

Broadest Line of Low Power, 5V 8-bit MCUs

Summary

The nanoWatt XLP PIC18F “K22” Flash Family of microcontrollers offer all of the advantages of the well recognized PIC18F High Performance MCUs; C compiler optimized architecture and an industry leading peripheral set now available in 20-80 pin packages.

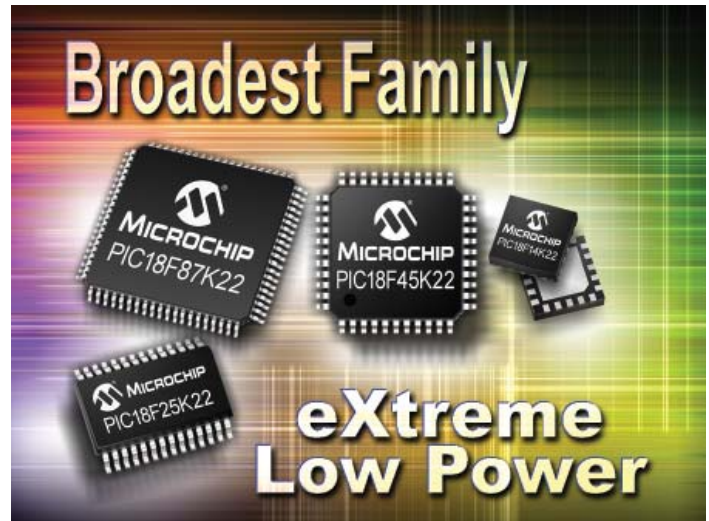
The PIC18F “K22” MCUs provide features such as operation from 1.8 to 5.5V, numerous communication channels, 8 to 128 KB Flash memory, and peripherals to support mTouch™ capacitive touch-sensing applications. Other features include a 12-bit Analog-to-Digital Converter (ADC), multiple PWMs, multiple communications channels and additional timers. All of the new MCUs feature nanoWatt XLP technology for eXtreme Low Power operation, with industry-leading Sleep/Active current reduction.

The 5V capability of the family is ideal for applications that typically require robust operation or noise immunity. Battery-powered applications benefit from nanoWatt XLP technology, which reduces current draw and therefore extends battery life.

The feature set of the PIC18F “K22” MCUs allows this family to be used in a wide variety of applications including: **industrial** (e.g. metering, electronic door locks, cargo tracking, lighting, alarm systems); **appliance** (e.g. smart energy, dishwashers, refrigerators, HVAC controls); **medical** (e.g. diagnostic devices, portable medical meters); and **automotive** (e.g. lighting, dashboard instrument clusters, keyless entry, interior controls, garage-door openers) markets, among others.

Key Features

- Wide Operating Voltage Range
 - $V_{DD} = 1.8$ to 5.5 V
- Low Power Modes Utilizing nanoWatt XLP Technology
 - Sleep
 - Watchdog Timer
 - RTCC
 - Low Power BOR
 - Low Power Wake-up
- 12-bit, 24-ch. A/D Converter



- Charge Time Measurement Unit (CTMU) module:
 - Capacitive touch sensing for touch screens and keys and sliders
 - Proximity sensing
 - Temperature sensing
 - Precision time measurement
 - Capacitance change measurement
- Selectable Fixed Voltage Reference
- 16 MHz precision Internal Oscillator which can be used with the standard 4X PLL to produce 16 MIPS of performance (64 MHz @ 3V)
- Up to three Rail-Rail Comparators with improved input/output multiplexing
- Enhanced Capture/Compare/PWM (ECCP+) module with PWM steering
- Serial Communication:
 - Two Master Synchronous Serial Port (2 SPI, 2 I²C™, 2 EUSART) module with software controllable address masking



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Additional Information

- PIC18LF2X/4XK22 Data Sheet, DS41412
- PIC18F87K22 Family Data Sheet, DS39960
- PIC18LF2XK22/4XK22 Flash Memory Programming Spec, DS41398
- PIC18F6KXX/8KXX Programming Spec, DS39947
- mTouch Sensing Solution User's Guide, DS41328

- 8-bit PIC® Microcontroller Solutions Brochure, DS39630
- Corporate Focus Product Selector Guide, DS01308
- Quick Guide to Microchip Development Tools Brochure, DS51894

Sample/Purchasing Information

- On-line Sampling: sample.microchip.com
- On-line Purchasing: www.microchipdirect.com

PIC18F "K22" Flash Microcontrollers

Device	Pins	I/O	Program Memory (Kbytes)	Data RAM (Bytes)	Data EEPROM (Bytes)	ADC	Comparators	CCP/ECCP PWMs	CTMU for Cap Touch	EUSART	MSSP (I ² C™/SPI)	Timers 8-bit/16-bit	Operating Voltage	Packages
PIC18F13K22 PIC18LF13K22	20	18	8	256 B	256 B	10-bit x 12 ch.	2	0/1	N	1	1	1/3	1.8-5.5V 1.8-3.6V	PDIP, SOIC, SSOP, 4x4 QFN
PIC18F14K22 PIC18LF14K22	20	18	16	512 B	256 B	10-bit x 12 ch.	2	0/1	N	1	1	1/3	1.8-5.5V 1.8-3.6V	PDIP, SOIC, SSOP, 4x4 QFN
PIC18F23K22 PIC18LF23K22	28	25	8	512 B	256 B	10-bit x 17 ch.	2	1/1	Y	2	2	1/3	1.8-5.5V 1.8-3.6V	SPDIP, SOIC, SSOP, 4x4 QFN, 6x6 QFN
PIC18F24K22 PIC18LF24K22	28	25	16	768 B	256 B	10-bit x 17 ch.	2	1/1	Y	2	2	1/3	1.8-5.5V 1.8-3.6V	SPDIP, SOIC, SSOP, 4x4 QFN, 6x6 QFN
PIC18F25K22 PIC18LF25K22	28	25	32	1536 B	256 B	10-bit x 17 ch.	2	2/3	Y	2	2	3/4	1.8-5.5V 1.8-3.6V	SPDIP, SOIC, SSOP, 6x6 QFN
PIC18F26K22 PIC18LF26K22	28	25	64	4 KB	1 KB	10-bit x 17 ch.	2	2/3	Y	2	2	3/4	1.8-5.5V 1.8-3.6V	SPDIP, SOIC, SSOP, 6x6 QFN
PIC18F43K22 PIC18LF43K22	40/44	36	8	512 B	256 B	10-bit x 28 ch.	2	1/1	Y	2	2	1/3	1.8-5.5V 1.8-3.6V	TQFP, 5x5 QFN, 8x8 QFN
PIC18F44K22 PIC18LF44K22	40/44	36	16	768 B	256 B	10-bit x 28 ch.	2	1/1	Y	2	2	1/3	1.8-5.5V 1.8-3.6V	TQFP, 5x5 QFN, 8x8 QFN
PIC18F45K22 PIC18LF45K22	40/44	36	32	1536 B	256 B	10-bit x 28 ch.	2	2/3	Y	2	2	3/4	1.8-5.5V 1.8-3.6V	TQFP, 5x5 QFN, 8x8 QFN
PIC18F46K22 PIC18LF46K22	40/44	36	64	4 KB	1 KB	10-bit x 28 ch.	2	2/3	Y	2	2	3/4	1.8-5.5V 1.8-3.6V	TQFP, 5x5 QFN, 8x8 QFN
PIC18F65K22	64	53	32	2 KB	1 KB	12-bit x 16 ch.	3	5/3	Y	2	2	4/4	1.8-5.5V	TQFP, 9x9 QFN
PIC18F66K22	64	53	64	4 KB	1 KB	12-bit x 16 ch.	3	7/3	Y	2	2	6/5	1.8-5.5V	TQFP, 9x9 QFN
PIC18F67K22	64	53	128	4 KB	1 KB	12-bit x 16 ch.	3	7/3	Y	2	2	6/5	1.8-5.5V	TQFP, 9x9 QFN
PIC18F85K22	80	69	32	2 KB	1 KB	12-bit x 24 ch.	3	5/3	Y	2	2	4/4	1.8-5.5V	TQFP
PIC18F86K22	80	69	64	4 KB	1 KB	12-bit x 24 ch.	3	7/3	Y	2	2	6/5	1.8-5.5V	TQFP
PIC18F87K22	80	69	128	4 KB	1 KB	12-bit x 24 ch.	3	7/3	Y	2	2	6/5	1.8-5.5V	TQFP

Development Tools from Microchip

Part Number	Development Tool	Description
DM183032	PIC18 Explorer Board	Low-cost demo board to evaluate PIC18 MCU families.
MA160014	PIC184XK22 Plug-In Module	Plug-in module features the PIC18LF45K22 device. Interfaces directly to the HPC Explorer Board for evaluation or demo purposes.
MA180028	PIC18F87K22 Plug-In Module	Plug-in module features the PIC18F87K22 device. Interfaces directly to the HPC Explorer Board for evaluation or demo purposes.
DV164131	PICkit™ 3 Debug Express	In-Circuit Debugger/Programmer uses in-circuit debugging logic incorporated into each chip with Flash memory to provide a low-cost hardware debugger and programmer.
DV164035	MPLAB® ICD 3 In-Circuit Debugger	Cost effective high-speed hardware debugger/programmer for Flash Digital Signal Controller (DSC) and microcontroller (MCU) devices.



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www.microchip.com/PIC18K22

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

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