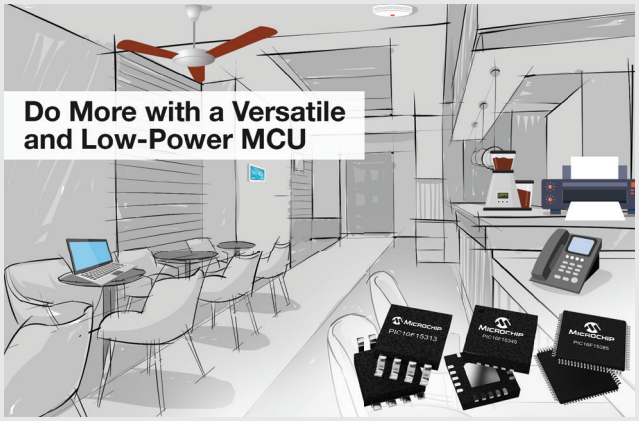
PIC16F15386 Microcontroller Family

Versatile and Low-Power MCUs with Core Independent Peripherals

The PIC16(L)F15386 8-bit product family features essential peripherals like Intelligent Analog, Core Independent Peripherals (CIPs) and communication combined with eXtreme Low-Power (XLP) technology. These MCUs have up to 28 KB of Flash and 2 KB of RAM. The family features PWMs, multiple communications interfaces, a temperature sensor; along with memory features like Memory Access Partition (MAP) and Device Information Area (DIA). The MCUs also have power saving and system flexibility features such as CPU IDLE/DOZE modes, peripheral module disable (PMD) and peripheral pin select (PPS), and are offered in a broad range of pin counts from 8–48 pins, to support a wide range of general purpose and low power applications.



Key Features

- 32 MHz internal oscillator
- Up to 28 KB Flash program memory
- Up to 2 KB of SRAM
- eXtreme Low Power (XLP) technology
- IDLE and DOZE low power modes
- Memory Access Partition (MAP)
- Device Information Area (DIA)
- Windowed Watch Dog Timer (WWDT)
- Peripheral Pin Select (PPS)
- Peripheral Model Disable (PMD)
- Configurable Logic Cell (CLC)
- 10-bit ADC, up to 43 channels
- Two comparators
- Zero Cross Detect (ZCD)
- On-chip temperature indicator
- 5-bit DAC
- 10-bit PWMs with complement generation
- EUSART, SPI, and I^2C
- Broad range of packages in 8 to 48 pins

Enhanced System Features

Memory Access Partition (MAP) supports bootloader write-protection to prevent accidental over-write. Device Information Area (DIA) offers protected storage for unique device identification and calibration values.

Power Conserving Functionality

The MCUs contain power management modes (IDLE/DOZE) that allow you to optimize device performance and power consumption. The Peripheral Module Disable (PMD) allows unused peripherals to be turned off individually, further reducing power consumption.

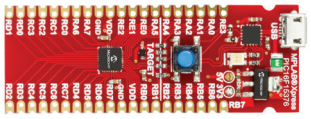
Faster Time to Market

Core Independent Peripherals provide you with the ability to accomplish tasks in hardware while freeing up the CPU to do other tasks or go to sleep. This reduces power consumption, allows for deterministic response time and decreases firmware development and validation time.

To further reduce your time to market, we have designed the PIC16(L)F15386 family to seamlessly integrate with MPLAB® Code Configurator (MCC) for a modern embedded development experience. MCC is a free, graphical programming environment that generates seamless, easy-to-understand C code to be inserted into your project. Using an intuitive interface, it enables and configures a rich set of peripherals and functions specific to your application. Find out more at www.microchip.com/MCC.

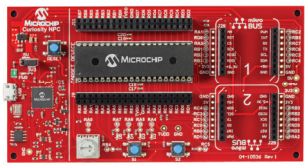
Rapid Development

MPLAB Xpress PIC16F15376 Evaluation Board (DM164143)



The MPLAB Xpress PIC16F15376 Evaluation Board integrates seamlessly with our MPLAB Xpress IDE and MPLAB Code Configurator for the quickest development cycle. Key features include a compact footprint offering flexibility during the prototyping phase and an integrated drag-and-drop programmer with USB Interface—no drivers required.

Curiosity Development Boards (DM164136 and DM164137)



The family is also supported by two Curiosity Development Boards, which are cost-effective and fully integrated MCU development platforms targeted at first-time users, makers and those seeking a feature-rich rapid prototyping board. The Curiosity platform includes an integrated programmer/debugger, and requires no additional hardware to get started. Both of these boards support the PIC16F15386 family, as well as other Microchip 8- to 40-pin PIC® MCUs with low-voltage programming.

Products

Part Number	Program Flash Memory (KW)	Program Flash (KB)	Storage Area Flash (B)	Data SRAM (B)	I/O Pins	10-bit ADC2 (ch)	5-bit DAC	Comps	8-bit (with HLT)/ 16-bit Timers	Watchdog Timer	CCP/10-bit PWM	CWG/NCO	CLC	Temp. Sensor with Low Power	EUSART/I²C/SPI	PPS/PMD/MAP	Packages
PIC16(L)F15313	2	3.5	224	256	6	5	1	1	1/2	Y	2/4	1/1	4	Y	1/1	Y/Y/Y	PDIP, SOIC, MSOP, UDFN
PIC16(L)F15323	2	3.5	224	256	12	11	1	2	1/2	Y	2/4	1/1	4	Y	1/1	Y/Y/Y	PDIP, SOIC, TSSOP, UQFN
PIC16(L)F15324	4	7	224	512	12	11	1	2	1/2	Y	2/4	1/1	4	Y	2/1	Y/Y/Y	PDIP, SOIC, TSSOP, UQFN
PIC16(L)F15325	8	14	224	1,024	12	11	1	2	1/2	Y	2/4	1/1	4	Y	2/1	Y/Y/Y	PDIP, SOIC, TSSOP, UQFN
PIC16(L)F15344	4	7	224	512	18	17	1	2	1/2	Y	2/4	1/1	4	Y	2/1	Y/Y/Y	PDIP, SOIC, SSOP, UQFN
PIC16(L)F15345	8	14	224	1024	18	17	1	2	1/2	Y	2/4	1/1	4	Y	2/1	Y/Y/Y	PDIP, SOIC, SSOP, UQFN
PIC16(L)F15354	4	7	224	512	25	24	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	SPDIP, SOIC, SSOP, QFN, UQFN
PIC16(L)F15355	8	14	224	1,024	25	24	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	SPDIP, SOIC, SSOP, QFN, UQFN
PIC16(L)F15356	16	28	224	2,048	25	24	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	SPDIP, SOIC, SSOP, QFN, UQFN
PIC16(L)F15375	8	14	224	1,024	36	35	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	PDIP, TQFP, QFN, UQFN
PIC16(L)F15376	16	28	224	2,048	36	35	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	PDIP, TQFP, QFN, UQFN
PIC16(L)F15385	8	14	224	1,024	44	43	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	UQFN, TQFP
PIC16(L)F15386	16	28	224	2,048	44	43	1	2	1/2	Y	2/4	1/1	4	Y	2/2	Y/Y/Y	UQFN, TQFP

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