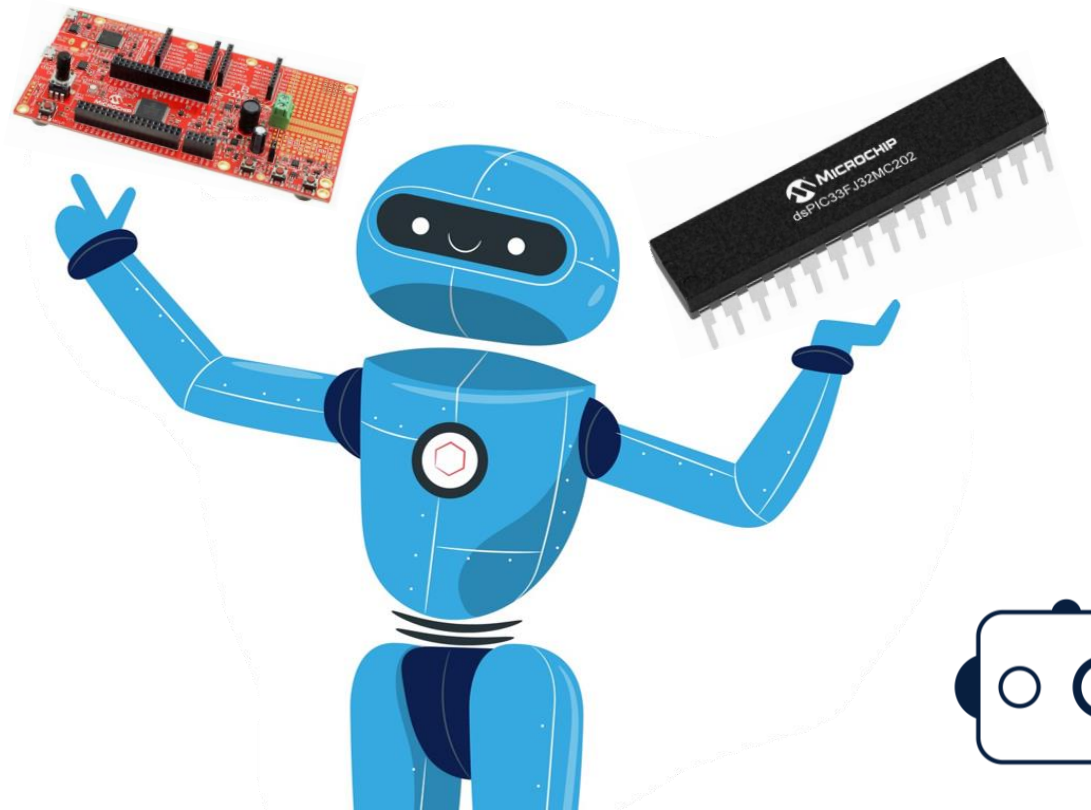
Taller :
Microcontroladores Pic de Microchip

Instructor : Godo Sánchez Heredia
Investigador y Desarrollador en el Área de Sistemas Embebidos
Laborando en CD Tech Group en el Área de Diseño de Electrónico



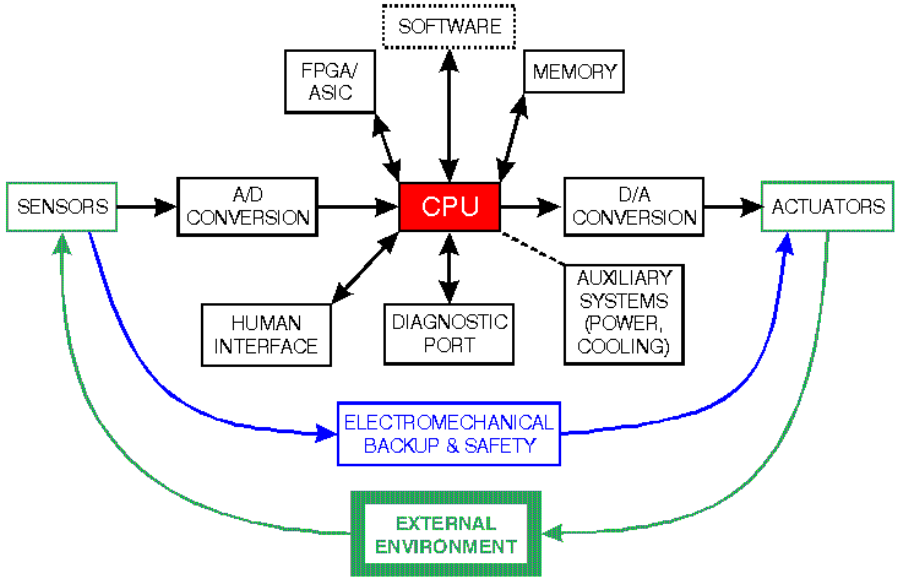
MPLAB X IDE
MPLAB XC COMPILER
MPLAB CODE CONFIGURATOR

UMAKER

Introducción a Los Sistemas Embebidos

Son sistemas electrónicos de propósito especifico diseñados para una función especifica

- Funcionalidad
- Consumo
- Costo
- Confiabilidad



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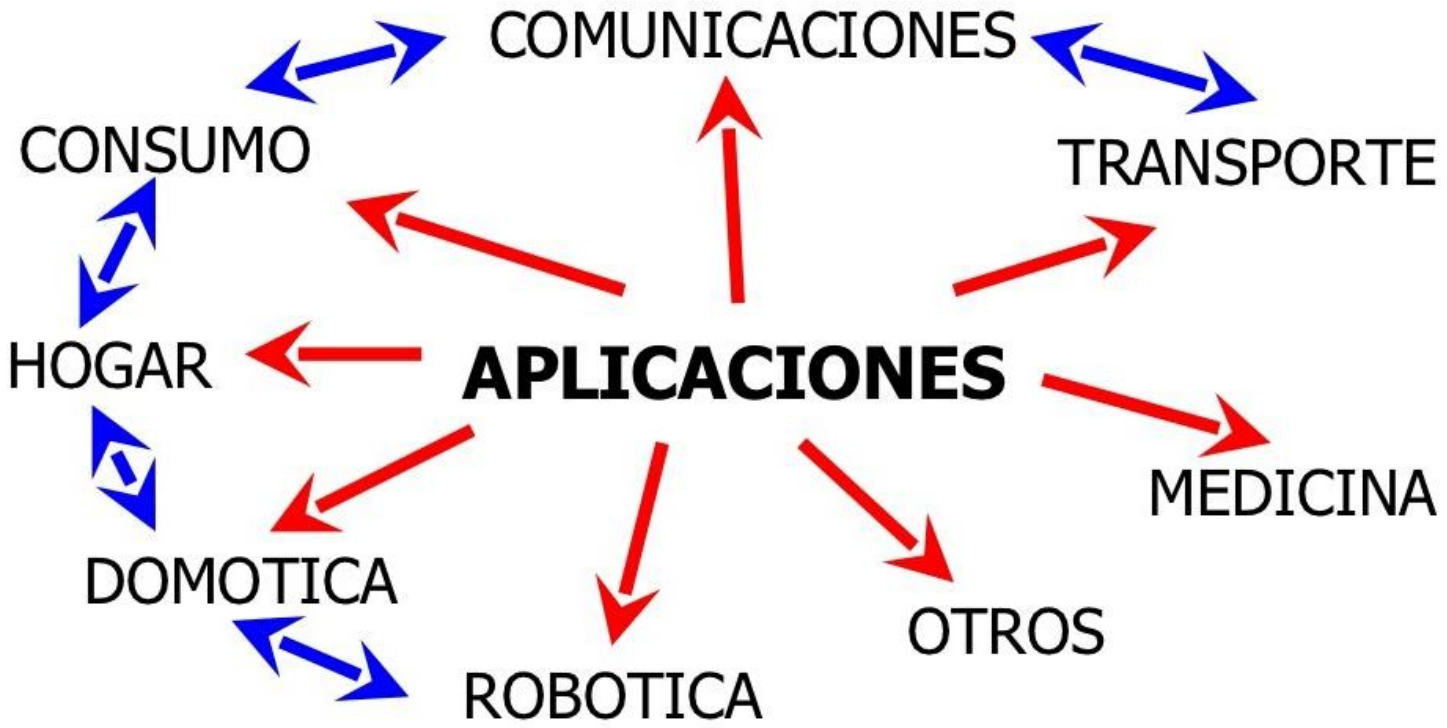
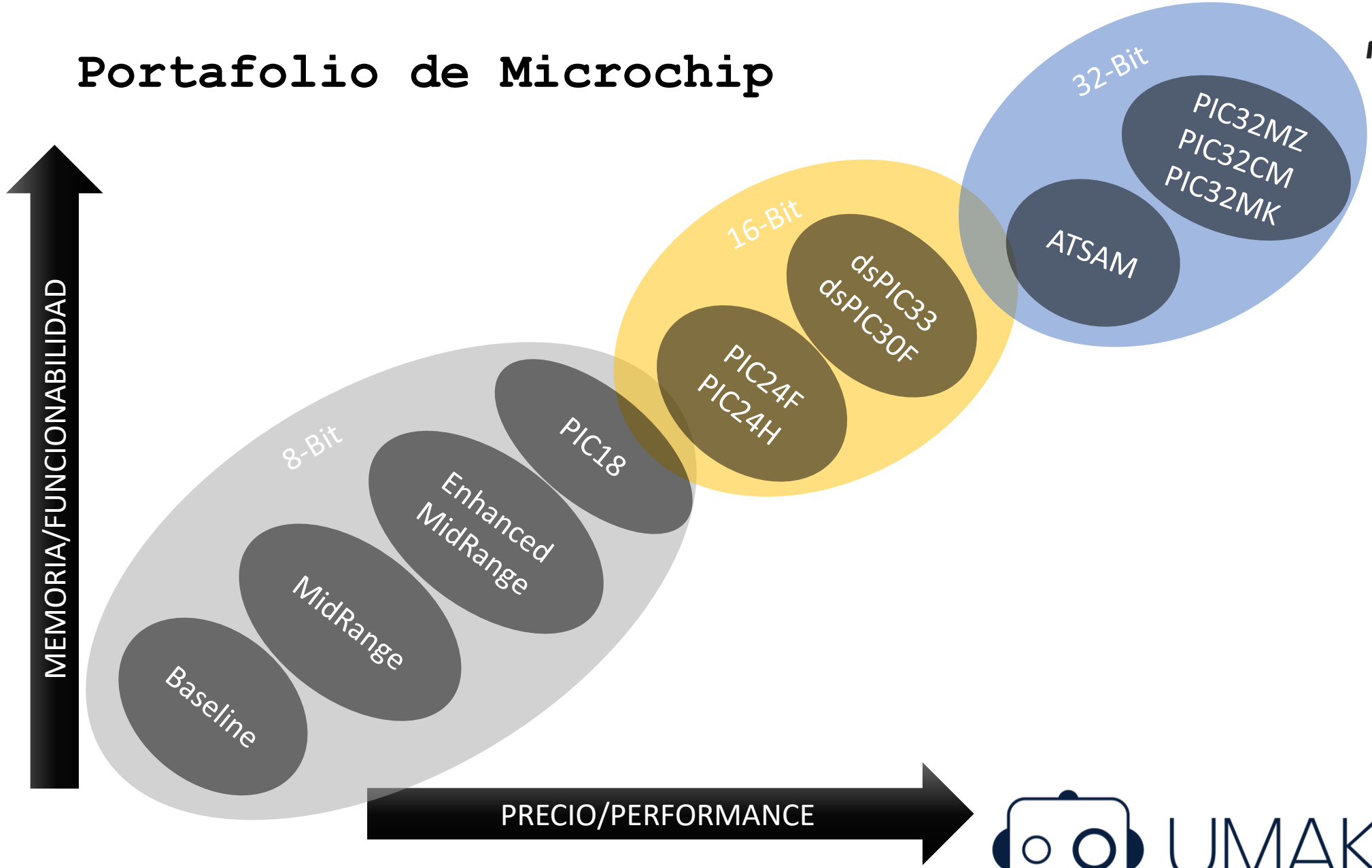
Introducción a Los Sistemas Embebidos



Portafolio de Microchip



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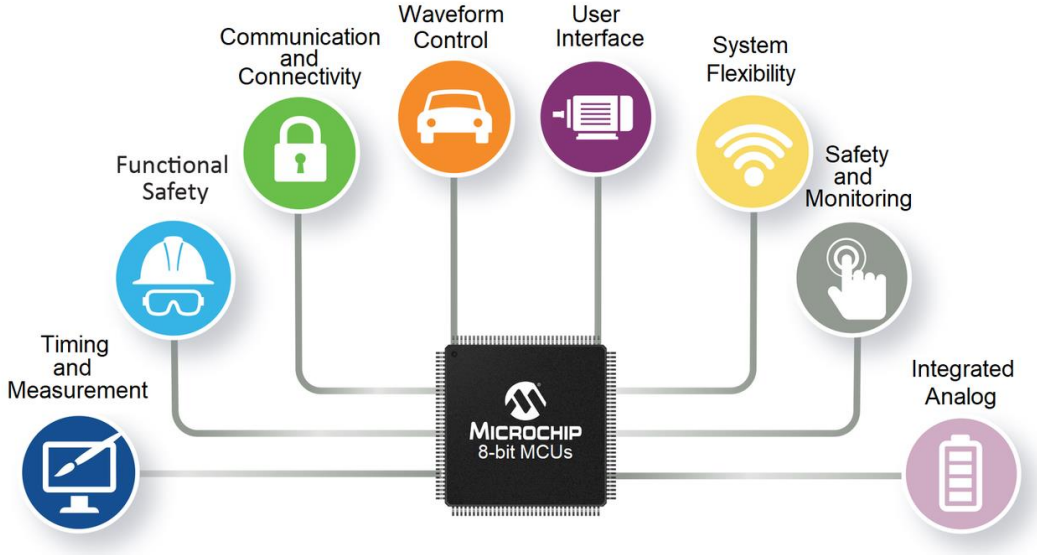
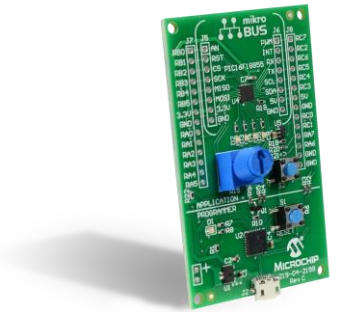
Linea de 8 Bits





MPLAB® XPRESS Board

https://ww1.microchip.com/downloads/en/DeviceDoc/30009630M.pdf

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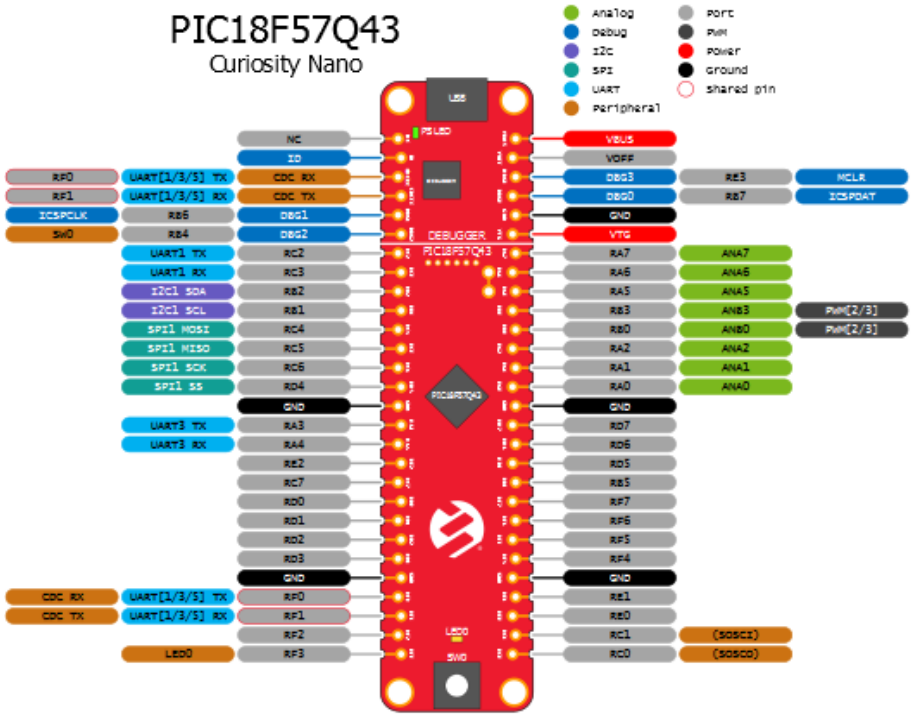
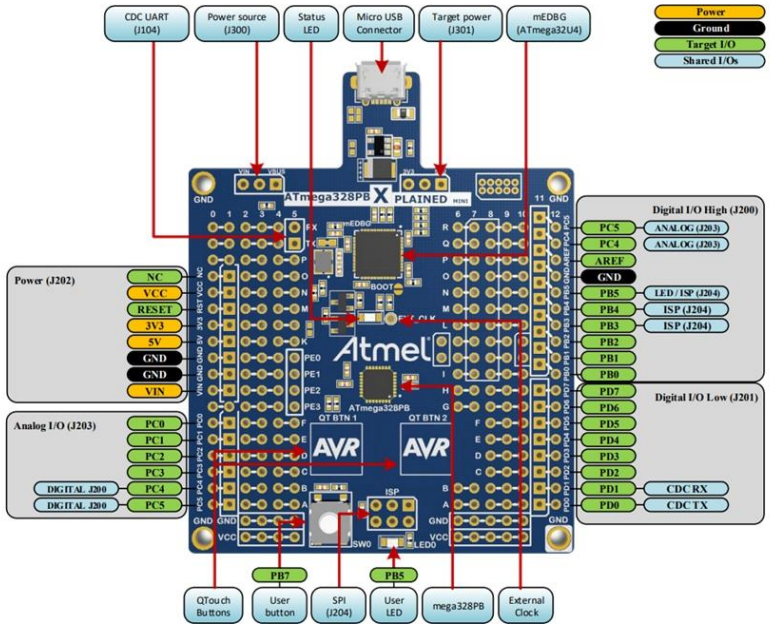
Linea de 8 Bits





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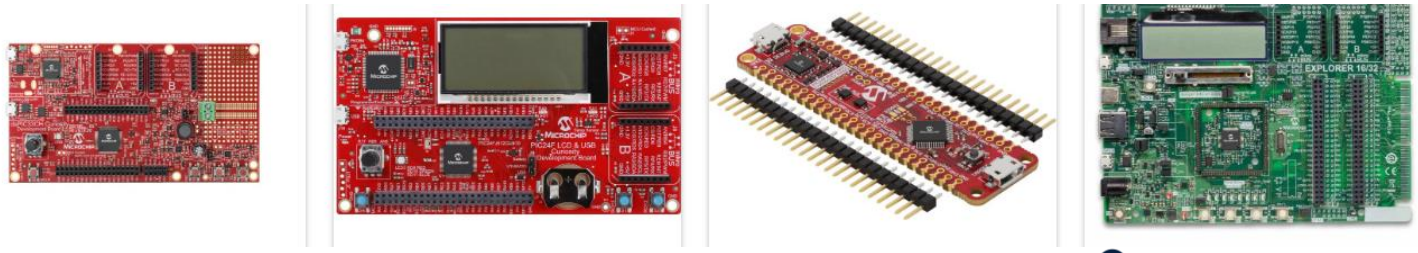
Linea de 16 Bits



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Familias del dsPIC

dsPIC33F Family

Speed (MIPs)	Flash (KB)	RAM (Bytes)	Pins
16-50	6 - 256	512 16384	18 - 100

Series:	dsPIC33F Features: DSP, ADC, Timers, UART, SPI, I²C, PWM
dsPIC33FJxxGPxxx -	General purpose, some devices with DMA, DAC, and QEI
dsPIC33FJxxGSxxx -	Optimized for SMPS designs, some devices with QEI and CTMU
dsPIC33FJxxMCxxx -	Motor control optimized, includes QEI and MCPWM

sPIC33E Family

Speed (MIPs)	Flash (KB)	RAM (Bytes)	Pins
70	32 - 512	4096 58304	28 - 144

Series:	dsPIC33E Features: DSP, DMA, ADC, UART, I²C, SPI, PWM, IC
dsPIC33EPxxGPxxx -	General purpose, includes CTMU and CAN
dsPIC33EPxxGMxxx -	Adds I²S and a second CAN to the GP series
dsPIC33EPxxMCxxx -	Motor control, includes QEI and enhanced PWM
dsPIC33EPxxGSxxx -	Optimized peripherals for SMPS applications

dsPIC33CH DUAL-CORE Family

Speed (MIPs)	Flash (KB)	RAM (Bytes)	Pins
100	64 - 512	20K - 40K	28 - 80

dsPIC30F Family

Speed (MIPs)	Flash (KB)	RAM (Bytes)	Pins
30	6 - 144	256 8192	18 - 80

Series:	dsPIC30F Features: DSP, ADC, Timers, UART, SPI, I²C, PWM
dsPIC30Fxxxx -	5 Volt, some devices with EEPROM, CAN and QEI

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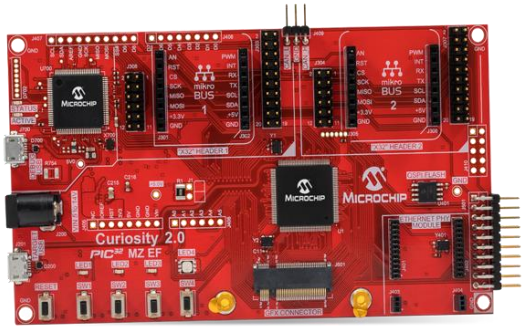
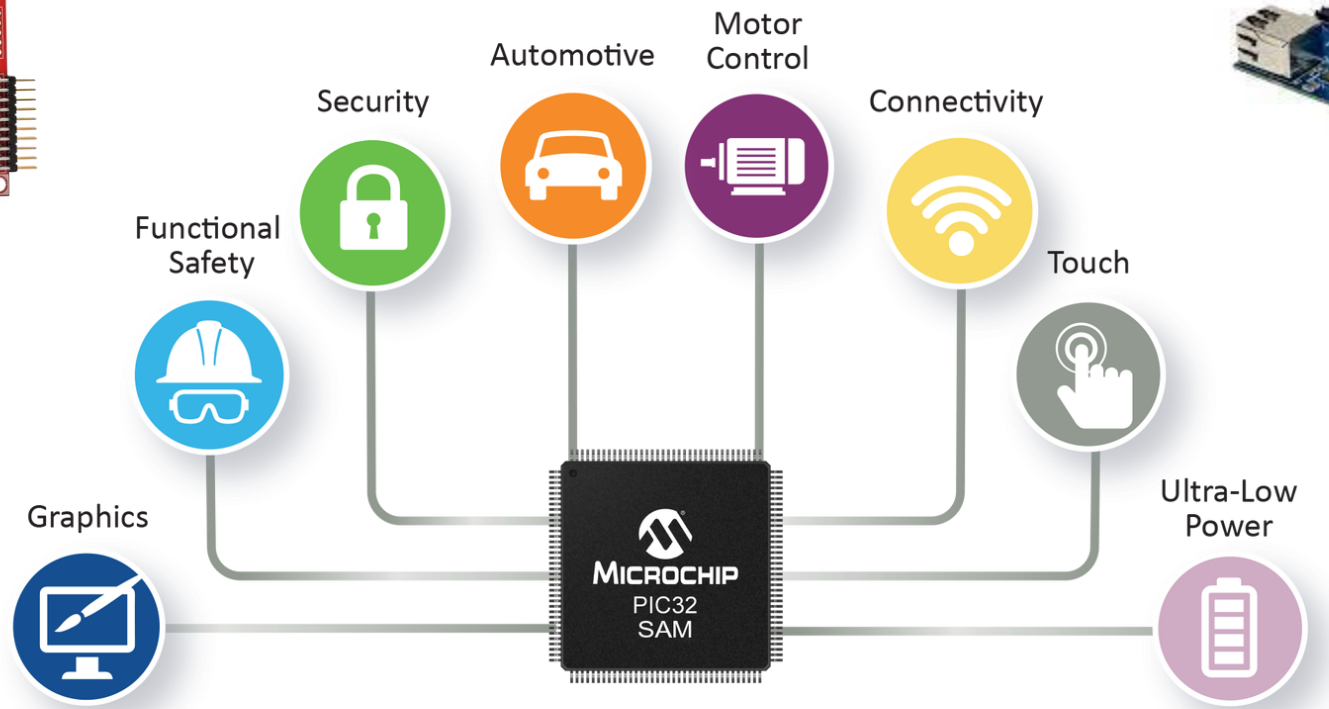
Linea de 32 Bits





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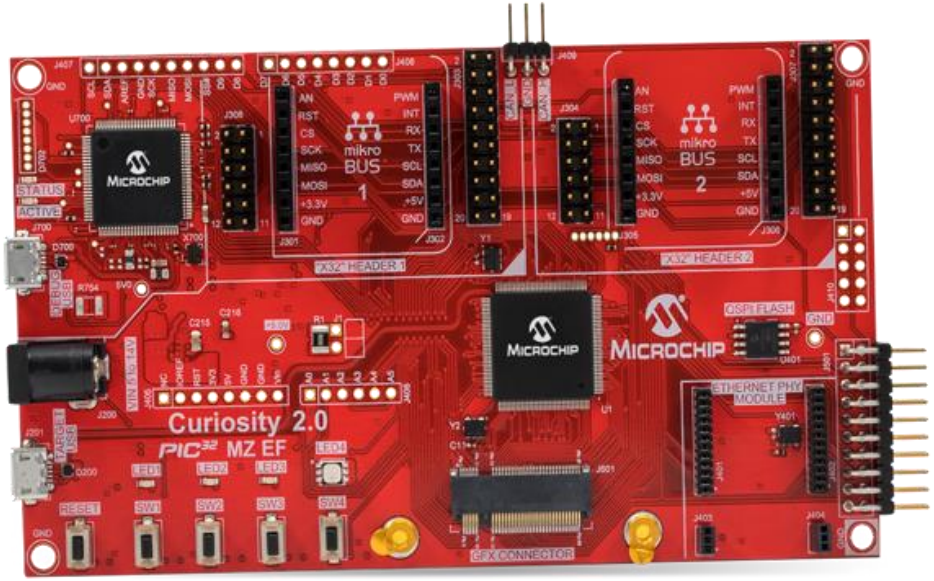
Linea de 32 Bits



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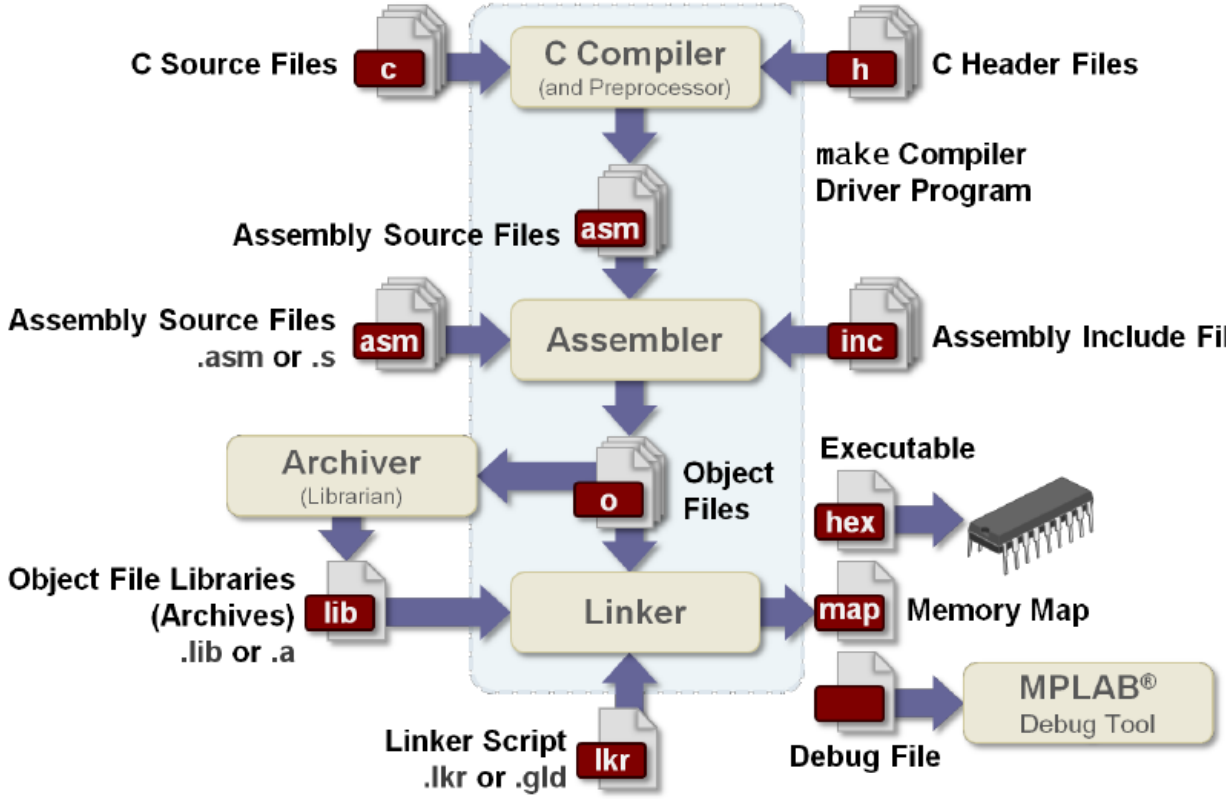
MPLAB X IDE

Entorno de desarrollo oficial para desarrollar aplicaciones con microconroladores de Microchip compatible con Windows, Linux y MAC.
Flexibildad de integracion con el Compilaodr de mcu de 16 bits

Función del Compilador XC16

Traducir el lenguaje de alto nivel(Lenguaje C,Basic ,Python etc). a lenguaje emsamblador



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Compilador XC16

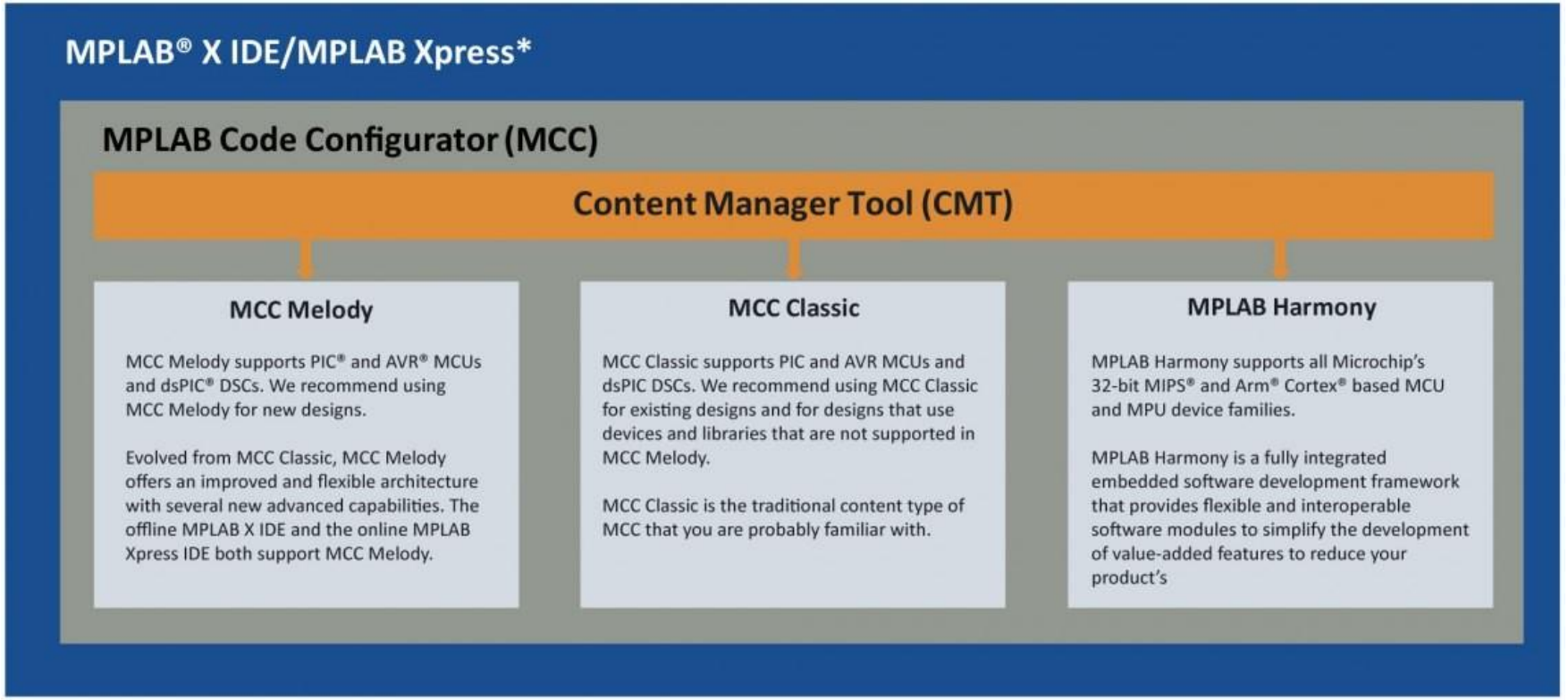
- Compilador ISO C90 (conocido como ANSI C)
- Soporta a todos los MCU de 16 Bits : PIC24 ,dsPIC33 Y dsPIC30
- Disponible para WIndows ,Linux, Mac OS

MCC

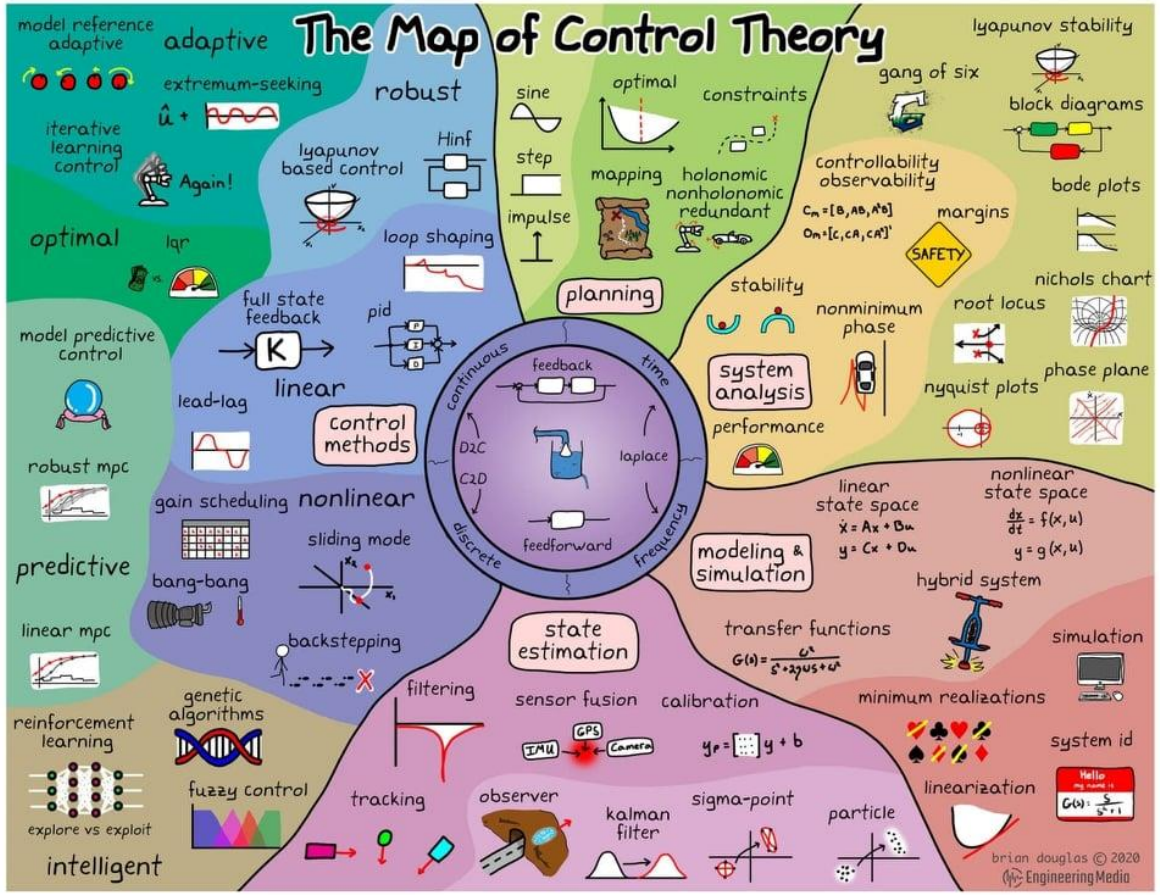
Es un entorno de programación gráfico gratuito que genera código C transparente y fácil de entender para insertarlo en su proyecto. Usando una interfaz intuitiva, habilita y configura un amplio conjunto de periféricos y funciones específicas para su aplicación. Es compatible con nuestros dispositivos de 8 bits, 16 bits y 32 bits, que incluyen nuestros microcontroladores (MCU) PIC®, AVR® y SAM y los controladores de señal digital (DSC) dsPIC®.

MCC consta de tres tipos de contenido: MCC Melody, MCC Classic y MPLAB Harmony. Ofrece bibliotecas de aplicaciones y controladores de sistema y periféricos para el desarrollo de software embebido.

MCC



*MPLAB Xpress only supports MCC Melody.



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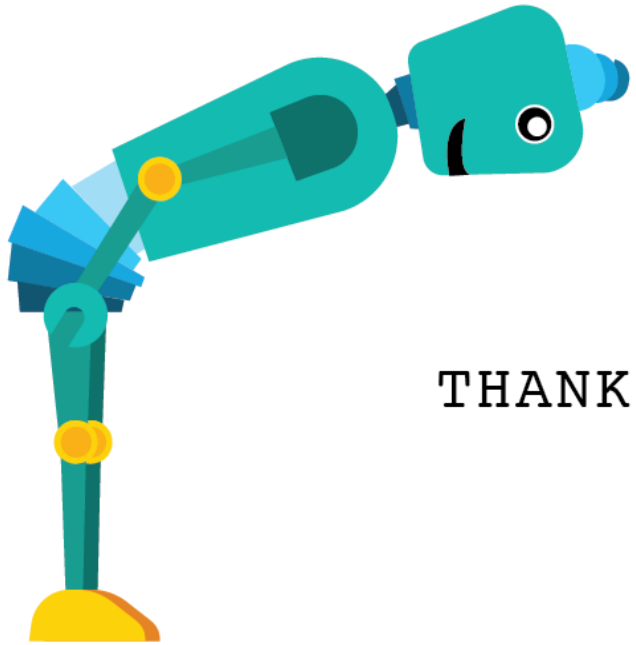

THANK YOU

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