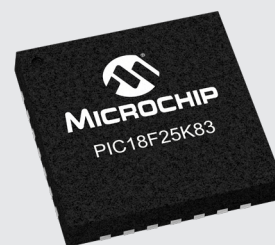


PIC18F25K83 Microcontroller Family

MCUs Combine CAN and Core Independent Peripherals to Increase System Capabilities

Summary

The PIC18 K83 family continues our long-standing tradition of innovation in 8-bit MCUs by combining an extensive array of Core Independent Peripherals (CIPs) with the PIC18 CAN product line. These cost-optimized MCUs contain 15 time-saving CIPs in 28 pins with up to 64 KB of Flash memory. These products are ideal for applications using CAN in the medical, industrial and automotive markets, such as motorized surgical tables, asset tracking, ultrasound machines, automated conveyors and automotive accessories. You can benefit greatly by saving time, as it is significantly easier to configure a hardware-based peripheral, as opposed to writing and validating an entire software routine to accomplish a task. The devices include a full complement of CIP including Cyclic Redundancy Check (CRC) with memory scan for ensuring the integrity of non-volatile memory; Direct Memory Access (DMA) enabling data transfers between memory and peripherals without CPU involvement; Windowed Watchdog Timer (WWDT) for triggering system resets; 12-bit Analog-to-Digital Converter with Computation (ADC²) for automating analog signal analysis for real-time system response; and Complementary Waveform Generator (CWG) enabling high-efficiency synchronous switching for motor control.



System Features

- Controller Area Network (CAN) module
 - Supports CAN 2.0A, 2.0B, 1.2
- Memory Access Partition (MAP)
 - Helps with data protection and bootloader applications
- Device Information Area (DIA)
 - Stores factory-programmed device ID and peripheral calibration values
- Serial communications
 - UART with support for Asynchronous, DMX, DALI and LIN
 - I²C and SPI

Maximum Performance

- Direct Memory Access (DMA) controller
 - Eliminates the need for CPU involvement in data transfers
 - Improves system performance and reduces power consumption
- Vectored Interrupts (VI)
 - Provides faster response times with fixed latency reducing software overhead

Highly Integrated CIPs

- Cyclic redundancy check with memory scan
- Windowed Watchdog Timer (WWDT)
- 24-bit Signal Measurement Timer (SMT)
- Hardware Limit Timer (HLT)
- Complementary Waveform Generation (CWG)
- Up to eight hardware 10-bit PWMs
- Configurable Logic Cells (CLC)

Intelligent Analog Functions

- 12-bit ADC with Computation (ADC²) automating Capacitive Voltage Divider (CVD)
- Zero Cross Detect (ZCD)
- Two comparators



Key Features

- 64 MHz internal oscillator
- Up to 64 KB Flash program memory
- Up to 4 KB data SRAM and 1 KB data EEPROM
- 12-bit ADC² (ADC with Computation), 24 channels
- Three 16-bit timers
- Two comparators
- Zero Cross Detect (ZCD)
- Windowed Watch Dog Timer (WWDT)
- Cyclic Redundancy Check (CRC) with SCAN
- Vectored interrupt capability
- Data Signal Modulator (DSM)
- 5-bit DAC
- UART, SPI and I²C
- Available in 28 pins

Develop with Curiosity Development Boards

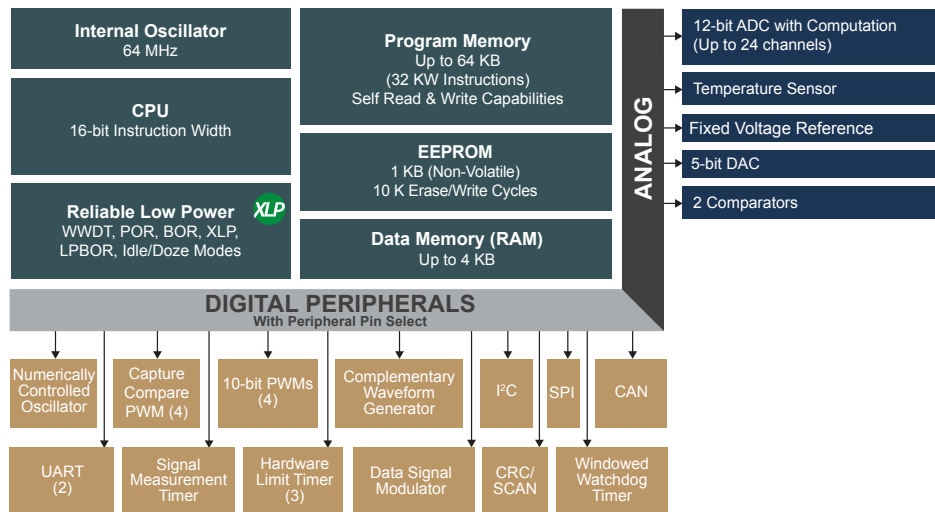


Curiosity Development Boards are cost-effective, fully integrated MCU development platforms targeted at first-time users, makers and those seeking a feature-rich rapid prototyping board. Designed from the ground-up to take full advantage of Microchip's MPLAB[®] X and MPLAB Xpress development environments, the Curiosity platform includes an integrated programmer/debugger, and requires no additional hardware to get started.

Curiosity HPC (DM164136) supports the PIC18 K83 products, as well as other Microchip 28-pin PIC[®] MCUs with low-voltage programming.

Products

Device	Pin Count	Program Flash Memory (KB)	Data EEPROM (B)	Data SRAM (bytes)	I/O Pins	12-bit ADC ² (ch)	5-bit DAC	Comparator	8-bit (with HLT)/16-bit Timer	Window Watchdog Timer (WWDT)	Signal Measurement Timer (SMT)	CCP/10-bit PWM	CWG	NCO	CLC	Zero Cross Detect	Direct Memory Access (DMA)	Vectored Interrupts	CAN	UART with Protocols	I ² C/SPI	PPS/PMD/MAP	Packages
PIC18(L)F25K83	28	32	1024	2048	25	24	1	2	3/3	Y	Y	4/4	1	1	4	Y	2	Y	Y	2	1/1	Y	SPDIP, SOIC, SSOP UQFN
PIC18(L)F26K83	28	64	1024	4096	25	24	1	2	3/3	Y	Y	4/4	1	1	4	Y	2	Y	Y	2	1/1	Y	SPDIP, SOIC, SSOP UQFN



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