Welcome to E-XFL.COM

What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Active
Core Processor	XCore
Core Size	32-Bit 12-Core
Speed	2000MIPS
Connectivity	-
Peripherals	-
Number of I/O	128
Program Memory Size	-
Program Memory Type	ROMless
EEPROM Size	-
RAM Size	512K x 8
Voltage - Supply (Vcc/Vdd)	0.95V ~ 3.6V
Data Converters	-
Oscillator Type	External
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	236-LFBGA
Supplier Device Package	236-FBGA (10x10)
Purchase URL	https://www.e-xfl.com/product-detail/xmos/xl212-512-fb236-i20

xCORE-200 XL/XLF General Purpose

A new generation of high performance general-purpose multicore microcontrollers

FEATURES

Multicore compute with up to 1000MIPS (8 core) and 2000MIPS (16 core) performance.

Hardware Response™ ports provide flexible, high-performance configurable I/O capability.

Up to 512KB on-board memory for demanding applications.

Embedded flash option – up to 2048KB on-board.

Free software library support to implement your exact mix of peripherals.

Easy to use with our free xTIMEcomposer Studio™ tools.

The xCORE-200™ General Purpose family of devices (XL and XLF) extends the popular xCORE™ architecture to provide increased performance, memory footprint and flexibility for the most demanding applications.

xCORE-200 XL/XLF implements a dual-issue processor pipeline to boost peak compute performance up to 2000MIPS and 1000MMACS.

Up to 512KB on-chip SRAM memory is available. Each member of the xCORE-200 family has an embedded flash option for applications.

The flexible Hardware Response ports are bonded out to I/O pins as 1bit, 4bit, 8bit, 16bit and 32bit ports, and provide support for serialized and buffered data transfer. Up to 128 general purpose I/O are available for user configuration.

xCORE-200 is supported by the advanced XMOS xTIMEcomposer Studio™ development environment, and a wide range of microcontroller and application libraries are freely downloadable from www.xmos.com

Unlike conventional microcontrollers, xCORE-200 multicore microcontrollers execute multiple real-time tasks simultaneously. The xCORE-200 XL/XLF family includes devices with 8, 10, 12 and 16 cores. Each logical core can execute computational code, advanced DSP code, control software (including logic decisions and executing a state machine) or drive and sample data on the I/O ports.
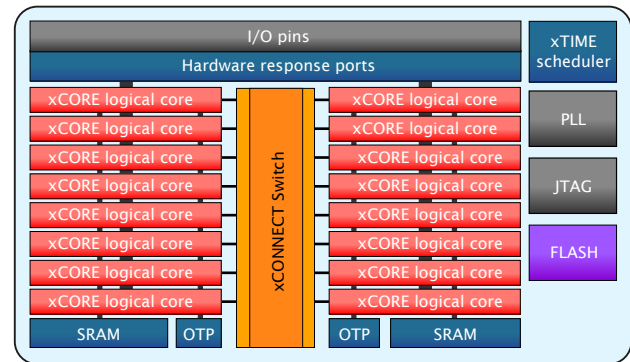
xCORE-200™ XLF216

The devices include xTIME scheduling hardware that performs functions similar to those of an RTOS, and hardware that connects the cores directly to I/O pins, ensuring fast processing and extremely low latency. The xTIME scheduler eliminates the use of interrupts and ensures deterministic operation.

The on-chip SRAM can be accessed in a single cycle, reducing shared memory requirements by passing data directly between tasks executing on logical cores. Similarly the xCONNECT switch is a high-speed network allowing all cores to communicate with each other.

xCORE-200 multicore microcontrollers include an area of one-time programmable memory with AES support to allow the implementation of secure boot functionality.

ORDERING INFORMATION

xCORE-200 XL/XLF devices are available in a range of resource densities, packages, performance and temperature grades depending on your needs.

Family	Cores	RAM (KB)	Flash (KB)	Package [GPIOs]		
				TQ64	TQ128	FB236
XL208	8	128 256	-	XL208-128-TQ64 [42] XL208-256-TQ64 [42]	XL208-128-TQ128 [42] XL208-256-TQ128 [42]	
XL210	10	256 512	-		XL210-256-TQ128 [88] XL210-512-TQ128 [88]	XL210-256-FB236 [128] XL210-512-FB236 [128]
XL212	12	256 512	-		XL212-256-TQ128 [88] XL212-512-TQ128 [88]	XL212-256-FB236 [128] XL212-512-FB236 [128]
XL216	16	256 512	-		XL216-256-TQ128 [88] XL216-512-TQ128 [88]	XL216-256-FB236 [128] XL216-512-FB236 [128]
XLF208	8	128 256	1024	XLF208-128-TQ64 [42] XLF208-256-TQ64 [42]	XLF208-128-TQ128 [42] XLF208-256-TQ128 [42]	
XLF210	10	256 512	2048		XLF210-256-TQ128 [88] XLF210-512-TQ128 [88]	XLF210-256-FB236 [128] XLF210-512-FB236 [128]
XLF212	12	256 512	2048		XLF212-256-TQ128 [88] XLF212-512-TQ128 [88]	XLF212-256-FB236 [128] XLF212-512-FB236 [128]
XLF216	16	256 512	2048		XLF216-256-TQ128 [88] XLF216-512-TQ128 [88]	XLF216-256-FB236 [128] XLF216-512-FB236 [128]

For pricing and availability, please visit the XMOS website for a list of our distributors.
www.xmos.com/distributors.