



# 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.

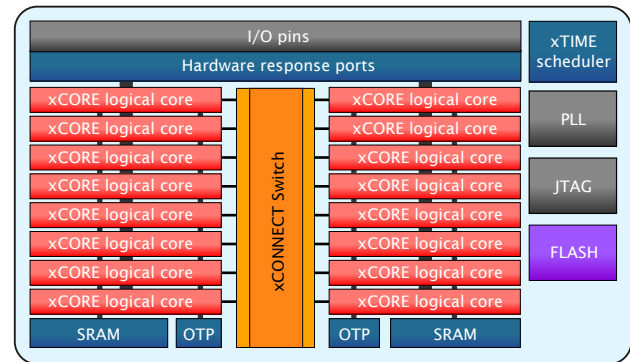
Up to 512KB on-chip SRAM memory is available. Each member of the xCORE-200 family has an embedded flash option for applications where additional security is required.

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](http://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 [42]	TQ128 [88]	FB236 [128]
<b>XL208</b>	8	128	-	XL208-128-TQ64	XL208-128-TQ128	XL208-128-FB236
		256		XL208-256-TQ64	XL208-256-TQ128	XL208-256-FB236
<b>XL210</b>	10	256	-		XL210-256-TQ128	XL210-256-FB236
		512			XL210-512-TQ128	XL210-512-FB236
<b>XL212</b>	12	256	-		XL212-256-TQ128	XL212-256-FB236
		512			XL212-512-TQ128	XL212-512-FB236
<b>XL216</b>	16	256	-		XL216-256-TQ128	XL216-256-FB236
		512			XL216-512-TQ128	XL216-512-FB236
<b>XLF208</b>	8	128	1024	XLF208-128-TQ64	XLF208-128-TQ128	XLF208-128-FB236
		256		XLF208-256-TQ64	XLF208-256-TQ128	XLF208-256-FB236
<b>XLF210</b>	10	256	2048		XLF210-256-TQ128	XLF210-256-FB236
		512			XLF210-512-TQ128	XLF210-512-FB236
<b>XLF212</b>	12	256	2048		XLF212-256-TQ128	XLF212-256-FB236
		512			XLF212-512-TQ128	XLF212-512-FB236
<b>XLF216</b>	16	256	2048		XLF216-256-TQ128	XLF216-256-FB236
		512			XLF216-512-TQ128	XLF216-512-FB236

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

[www.xmos.com/distributors](http://www.xmos.com/distributors).