



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.

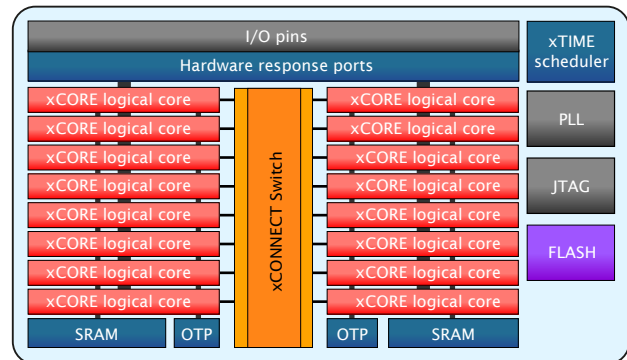
Up to 512KB on-chip SRAM memory is available. Each member of the xCORE-200 family has an embedded flash option for applications.

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. 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	FB374
XL208	8	128	-	XL208-128-TQ64 [42]	XL208-128-TQ128 [42]		
		256	-	XL208-256-TQ64 [42]	XL208-256-TQ128 [42]		
XL210	10	256	-		XL210-256-TQ128 [88]	XL210-256-FB236 [128]	
		512	-		XL210-512-TQ128 [88]	XL210-512-FB236 [128]	
XL212	12	256	-		XL212-256-TQ128 [88]	XL212-256-FB236 [128]	
		512	-		XL212-512-TQ128 [88]	XL212-512-FB236 [128]	
XL216	16	256	-		XL216-256-TQ128 [88]	XL216-256-FB236 [128]	
		512	-		XL216-512-TQ128 [88]	XL216-512-FB236 [128]	
XL224	24	512	-				XL224-512-FB374 [176]
		1024	-				XL224-1024-FB374 [176]
XL232	32	512	-				XL232-512-FB374 [176]
		1024	-				XL232-1024-FB374 [176]
XLF208	8	128	1024	XLF208-128-TQ64 [42]	XLF208-128-TQ128 [42]		
		256	1024	XLF208-256-TQ64 [42]	XLF208-256-TQ128 [42]		
XLF210	10	256	2048		XLF210-256-TQ128 [88]	XLF210-256-FB236 [128]	
		512	2048		XLF210-512-TQ128 [88]	XLF210-512-FB236 [128]	
XLF212	12	256	2048		XLF212-256-TQ128 [88]	XLF212-256-FB236 [128]	
		512	2048		XLF212-512-TQ128 [88]	XLF212-512-FB236 [128]	
XLF216	16	256	2048		XLF216-256-TQ128 [88]	XLF216-256-FB236 [128]	
		512	2048		XLF216-512-TQ128 [88]	XLF216-512-FB236 [128]	
XLF224	24	512	2048				XLF224-512-FB374 [176]
		1024	2048				XLF224-1024-FB374 [176]
XLF232	32	512	2048				XLF232-512-FB374 [176]
		1024	2048				XLF232-1024-FB374 [176]

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

www.xmos.com/distributors.

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This is a preliminary product brief, contents are subject to change.

XM-006787-PC | 2016-06-28