

xCORE-200 XE/XEF Ethernet + USB

A new generation of high performance Ethernet-enabled multicore microcontrollers



FEATURES

Multicore compute with up to 2000MIPS (16 core) and 4000MIPS (32 core) performance.

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

Integrated Gb Ethernet RGMII interface.

Integrated USB 2.0 PHY for high and full-speed host and device operation.

Up to 1024KB 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[™] Gigabit Ethernet family of devices (XE and XEF) extends the popular xCORE[™] architecture to provide increased performance, memory footprint and flexibility for the most demanding applications.

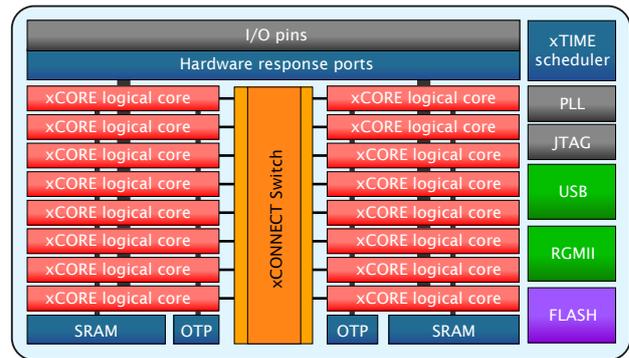
xCORE-200 XE/XEF devices contain integrated Gigabit Ethernet RGMII interfaces and USB2.0 PHYs (host or device) with a dual-issue processor pipeline that boosts peak compute performance up to 4000MIPS and 2000MMACS.

Up to 1024KB on-chip SRAM memory is available. Each member of the xCORE-200 family has an embedded flash option.

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 176 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 XE/XEF family includes devices with 16, 24 and 32 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™ XEF216

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 XE/XEF devices are available in a range of resource densities, packages, performance and temperature grades depending on your needs.

Family	Cores	RAM (KB)	Flash (KB)	RGMII	USB PHY	Package [GPIOs]		
						TQ128	FB236	FB374
XE216	16	256	-	1	1	XE216-256-TQ128 [81]	XE216-256-FB236 [128]	
		512				XE216-512-TQ128 [81]	XE216-512-FB236 [128]	
XE224	24	512	-	1	2			XE224-512-FB324 [176]
		1024						XE224-1024-FB324 [176]
XE232	32	512	-	2	2			XE232-512-FB324 [176]
		1024						XE232-1024-FB324 [176]
XEF216	16	256	2048	1	1	XEF216-256-TQ128 [81]	XEF216-256-FB236 [128]	
		512				XEF216-512-TQ128 [81]	XEF216-512-FB236 [128]	
XEF224	24	512	2048	1	2			XEF224-512-FB324 [176]
		1024						XEF224-1024-FB324 [176]
XEF232	32	512	2048	2	2			XEF232-512-FB324 [176]
		1024						XEF232-1024-FB324 [176]

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

www.xmos.com/distributors.