



MCF5223x Family

MCF5223x Applications

- > Remote data collection
- > Power-over-Ethernet
- > ZigBee™ control nodes
- > Security/access control panels
- > Health care pumps and monitors
- > Lighting control nodes
- > Home/industrial automation

MCF5223x Specifications

- > ColdFire® V2 core
- > Up to 57 Dhrystone 2.1 MIPS at 60 MHz
- > EMAC module and HW divide
- > Real-time clock

Integration

- > Up to 32 KB SRAM
- > Up to 256 KB flash: 100K W/E cycles, 10 years data retention
- > 10/100 Fast Ethernet Controller (FEC) Ethernet PHY
- > Cryptographic acceleration unit with random number generator
- > Enhanced CAN 2.0B controller interface with 16 message buffers
- > Three UARTs with DMA capability
- > Queued serial peripheral interface (QSPI) with four peripheral chip selects
- > Inter-integrated circuit (I²C) bus controller
- > Four 32-bit timer channels with DMA capability

*Subject to license agreement and registration

- > 4-channel, 16-bit or 8-channel, 8-bit PWM generator
- > Two periodic interrupt timers (PITs) for alarm and countdown timing
- > 4-channel DMA controller
- > 8-channel, 12-bit ADC
- > Up to 73 general-purpose I/Os
- > System integration (PLL, SW watchdog)
- > Single 3.3-volt supply

Availability

- > Temperature range: -40°C to +85°C
- > Package options:
 - 20 mm x 20 mm x 1.4 mm (0.65 mm pitch) 112-pin low profile quad flat package (LQFP)
 - 14 mm x 14 mm x 1.3 mm (0.65 mm pitch) 80-pin LQFP
 - 12 mm x 12 mm x 1.6 mm (1.0 mm pitch) 121-pin mold array process ball grid array (MAPBGA) package

M52235EVB and M52233DEMO Development System

- > Easy-to-get
 - M52235EVB
 - > Suggested resale price: \$299
 - > 112-pin LQFP MCF52235 (60 MHz) ColdFire device
 - > 3 RS-232 physical interface and standard DB9 connections
 - > Power-over-Ethernet circuit
 - > Supports ZigBee-ready RF daughter card
 - > Breakout connector for serial

- interfacing—I²C, QSPI, GPIO, ADC
- > LEDs for power up indication, general purpose I/O and timer output signals
- > dBUG operating system loaded in flash
- M52233DEMO
 - > Suggested resale price: \$99
 - > 80-pin LQFP MCF52233 ColdFire device
 - > Supports ZigBee-ready RF daughter card

- > Easy-to-use
 - ColdFire initialization—graphical initialization tool
 - CodeWarrior™ Special Edition included in each development kit at no extra cost*
 - Free* open source software—GCC/GDB IDE
 - No-cost* ColdFire TCP/IP Lite by Interniche
 - Professional tools and systems scheduled from:
 - > CodeWarrior
 - > Green Hills Software
 - > MQX Embedded—Precise/MQX™
 - > Wind River Systems—Wind River Compiler™ and Hardware Assisted Debugger
 - > Accelerated Technology—Nucleous, Microtec and XRAY
 - > TCP/IP stack options: Interniche, CMX Systems and Treck



VICES

Part Number	Flash/SRAM	Key Features	Package	Speed	10K MSRP*
MCF52230	128 KB/32 KB	FEC, EPHY, 3 UARTs, I ² C, QSPI, A/D, 16-bit/32-bit/PWM timers, DMA	80/112 LQFP	60 MHz	From \$7.99
MCF52231	128 KB/32 KB	FEC, EPHY, 3 UARTs, I ² C, QSPI, A/D, 16-bit/32-bit/PWM timers, DMA, CAN	80/112 LQFP	60 MHz	From \$8.79
MCF52233	256 KB/32 KB	FEC, EPHY, 3 UARTs, I ² C, QSPI, A/D, 16-bit/32-bit/PWM timers, DMA	80/112 LQFP	60 MHz	From \$8.69
MCF52234	256 KB/32 KB	FEC, EPHY, 3 UARTs, I ² C, QSPI, A/D, 16-bit/32-bit/PWM timers, DMA, CAN	112 LQFP 121 MAPBGA	60 MHz	From \$9.42
MCF52235	256 KB/32 KB	FEC, EPHY, 3 UARTs, I ² C, QSPI, A/D, 16-bit/32-bit/PWM timers, CAN, Crypto	112 LQFP 121 MAPBGA	60 MHz	From \$11.32
M52235EVB		Development Kit			\$299

M52233DEMO

Cost-effective Board

\$99

*Manufacturer's suggested resale price in units of 10K

DOCUMENTATION

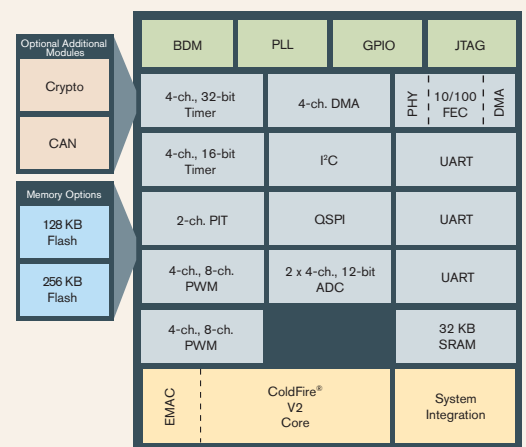
Document Number	Title	Revision	Status
MCF52235EC	MCF5223x Microcontroller Family Hardware Specification	—	Available
MCF52235RM	MCF5223x ColdFire Microcontroller Reference Manual	—	Available
MCF52235PB	MCF5223x Integrated Microcontroller Product Brief	—	Available
MCF5223XFS	MCF5223x ColdFire Family Fact Sheet	—	Available
AN3236	Designing for Low Power with the MCF5213	—	Available
COLDFIREECPAK	ColdFire® Embedded Controllers Overview Brochure	2	Available
MCF5XXXWP	MCF5xxxWP WHITE PAPER: ColdFire VL RISC Processors	—	Available under NDA
MAPBGAPP	MAPBGA 4-Layer Example	—	Available
CFPRM/D	ColdFire Family Programmer's Reference Manual	2	Available
COLDFIRE2UM	Version 2/2M ColdFire Core Processor User's Manual	—	Available
COLDFIRERD	ColdFire Performance Roadmap	—	Available

More Connectivity Options

With the rapid proliferation of networked solutions in the industrial, commercial and consumer markets, product designers are looking for a variety of packages that provide bandwidth, speed, convenience and security. Interconnecting nodes within a system and providing that system access to local area networks (LANs) in the SOHO and enterprise arenas, including access to wide area networks (WANs) such as the Internet, has become a major design consideration for product developers.

The MCF5223x Family expands the entry-level 32-bit options available through the ColdFire portfolio of processors. It provides a solution to customers who need low-cost connectivity options that support standard protocols with security encryption. The MCF5223x embedded controllers integrate embedded 10/100 Fast Ethernet Controller (FEC) and Ethernet PHY, plus an additional layer of network security enhancement features.

MCF5223X BLOCK DIAGRAM



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