32-bit ColdFire® Microprocessors

MCF5301x Family

Target Applications

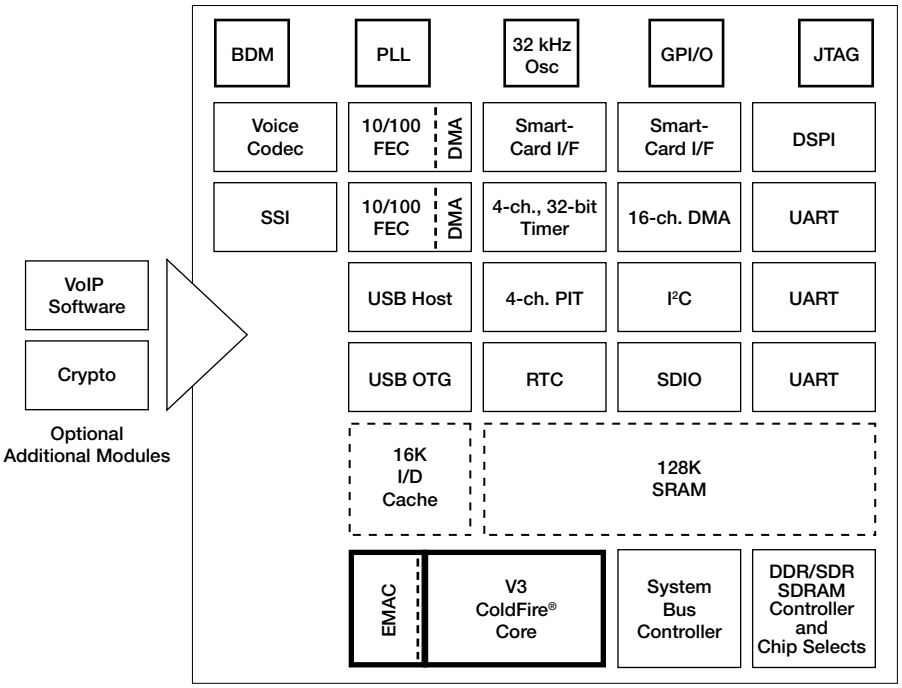
- Building automation
- Home automation
- Fire and alarm systems
- Access control
- Factory automation
- Medical monitoring equipment
- Point of sale systems
- Intercom and public address systems

Overview

The MCF5301x family of 32-bit microprocessors combines low power, high integration and extensive connectivity with an audio sub-system, into a powerful platform for general industrial control applications, including digital voice functionality for intercom and public address systems. The audio system includes a speech CODEC, microphone, headset and loud speaker amplifiers, and an optional NRE-free VoIP-based digital voice solution designed specifically for industrial and consumer applications.

The MCF5301x family supports extensive connectivity functions, with dual 10/100 Ethernet MACs, two USB controllers, three UARTs, two smart card interfaces, SPI, I²C, SSI and an SDIO host controller for easy connection to flash memory cards or wireless connectivity modules such as Wi-Fi. The V3 ColdFire® CPU with enhanced multiply accumulate unit, 16 KB of cache and 128 KB of integrated SRAM, provides a high level of performance for embedded control with industry-leading low power consumption across all operating modes.

MCF5301x Block Diagram



Features	Benefits
Audio sub-system (CODEC and amplifiers)	Easy implementation of voice functionality and reduced system cost
Low-power C90LP process	Low power consumption in all operating modes
Dual 10/100 Ethernet MAC	Enables network switching or ring/daisy chain network topology implementation
SDIO host interface	Supports use of SD memory cards and wireless communication modules, including Wi-Fi and Bluetooth®
Dual smart card interface	Easy implementation of user or equipment authentication
NRE-free VoIP software	Voice and media middleware, telephony features, encore voice processing subsystem, API, broadcast and mass notification, bootloader, WebUI and remote provisioning modules

Development Tools

M53015EVB

An evaluation and development system supporting all peripheral functions and commonly used memory configurations includes a µClinux BSP. May be used as a reference design or base for end application hardware designs.

M53017KIT

The digital voice solution kit includes an NRE-free software and hardware solution specifically designed for intercom and public address applications, and is also suitable for IP telephony.

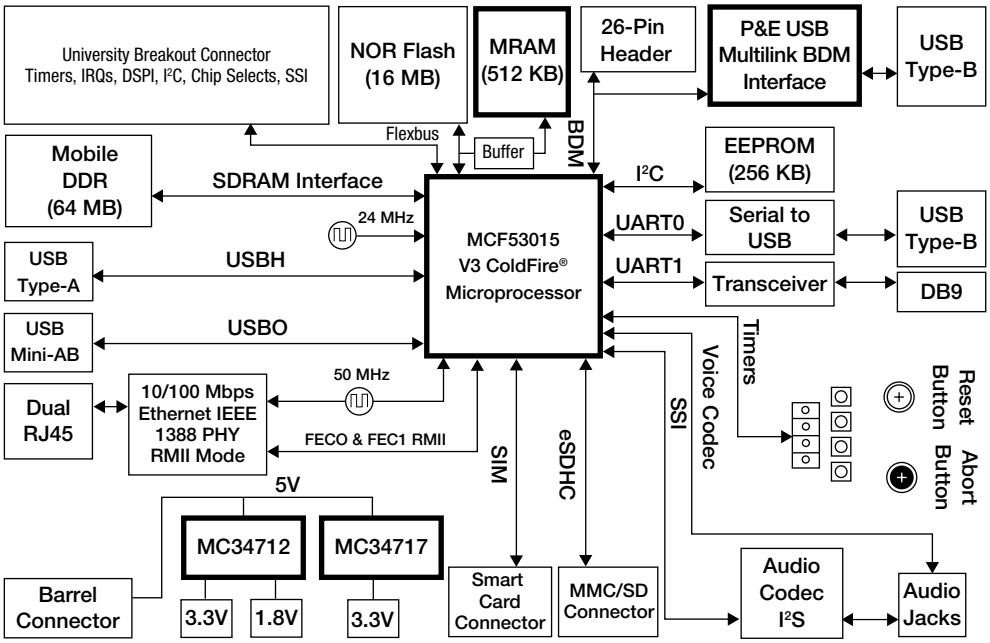
M53017MOD

Production-ready digital voice module includes a pre-programmed memory system suitable for direct use in small to medium volume applications.

freescale™ semiconductor

Device	Crypto	VoIP Software	Speaker Amplifier	Package
MCF53010	No	No	No	208 QFP
MCF53011	Yes	No	No	208 QFP
MCF53012	No	Yes	No	208 QFP
MCF53013	Yes	Yes	No	208 QFP
MCF53014	No	No	Yes	256 MAPBGA
MCF53015	Yes	No	Yes	256 MAPBGA
MCF53016	No	Yes	Yes	256 MAPBGA
MCF53017	Yes	Yes	Yes	256 MAPBGA

M53015EVB

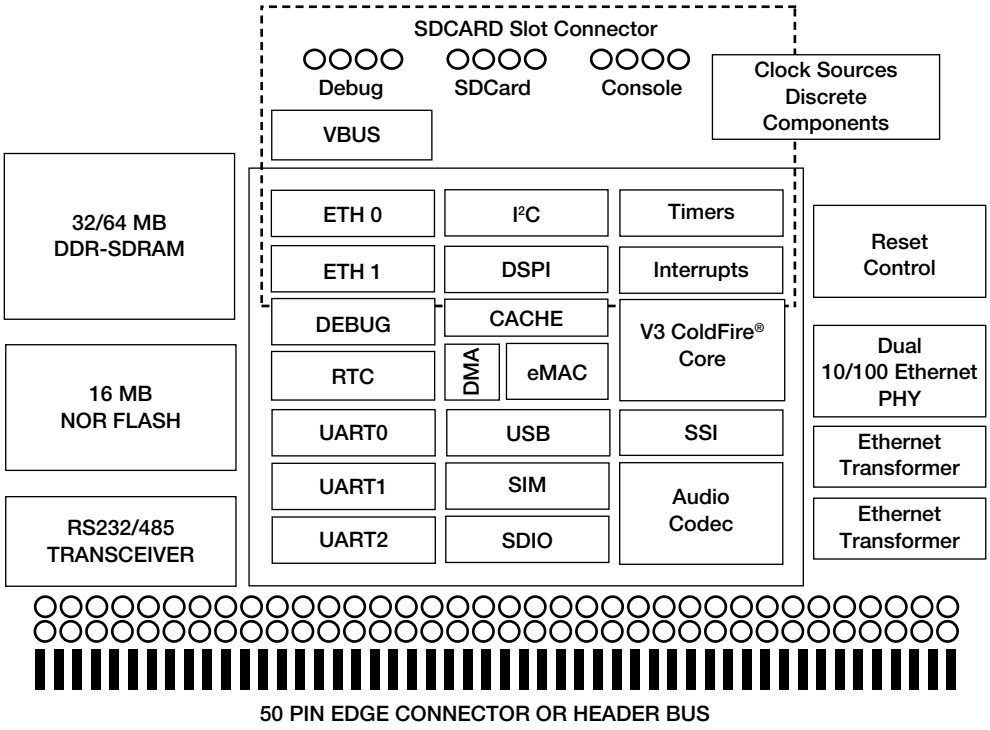


Freescale technology

M53017MOD Features

- Voice, controls and machine interface
- No prohibitive licensing or NRE
- Bundled, system level solution
- Modules available off-the-shelf
- Open source µClinux distribution

M53017MOD



Learn More: For more information about Coldfire® products, please visit **www.freescale.com/coldfire.**

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