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by MC68HC916X1/D

MC68HC916X1

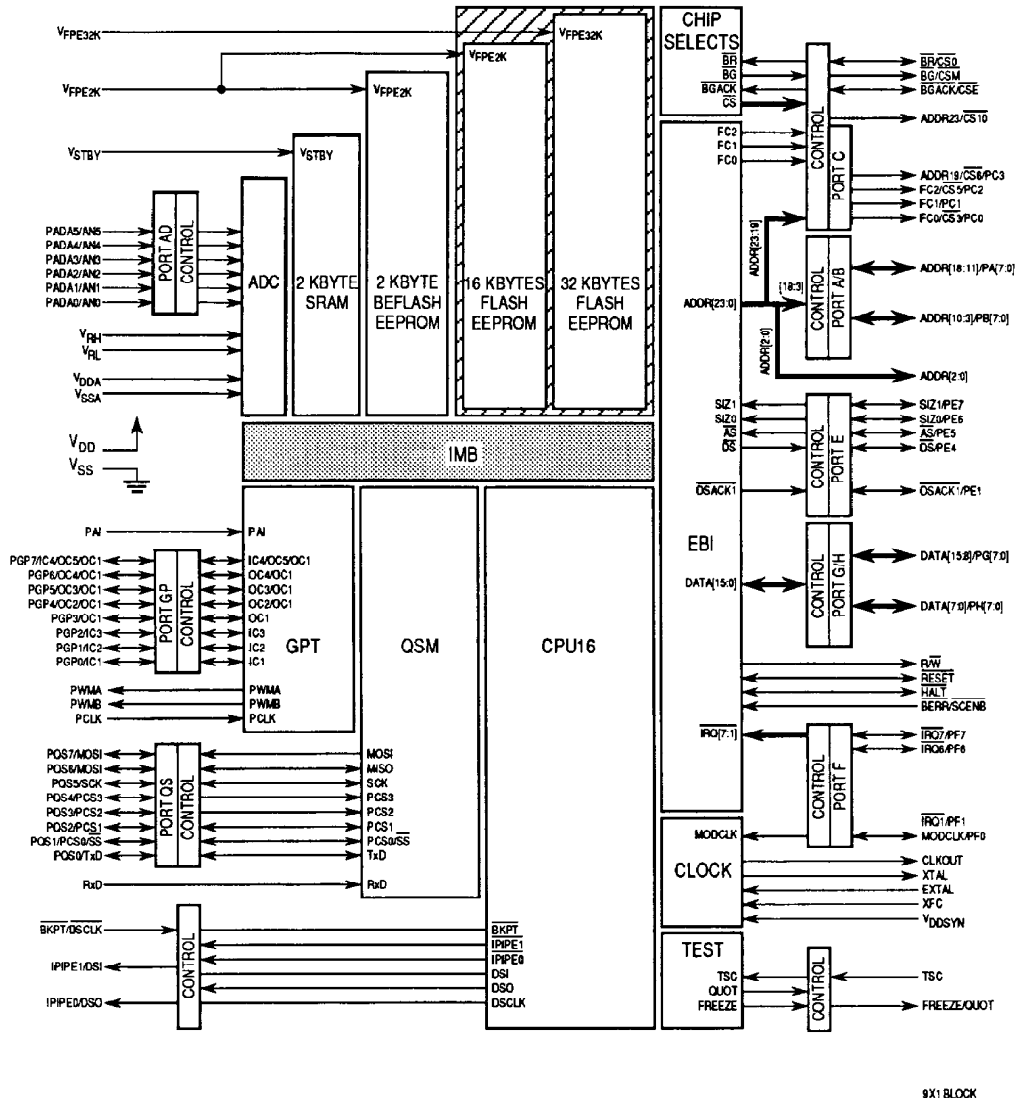
Product Preview

16-Bit Microcontroller

The MC68HC916X1 high speed, highly integrated 16-bit microcontroller unit (MCU) is a member of the M68HC16/M68300 family of intermodule bus (IMB)-based fully static, HCMOS designs.

- 16-Bit Central Processing Unit (CPU16) with Integrated Digital Signal Processing (DSP) Capability
  - — M68HC11 CPU Upward Source Code Compatible with 16-Bit Instruction Set
  - — Two Accumulator/Three Index Register Programming Model
  - — One Mbyte Program Space and One Mbyte Data Space
  - — Fast Interrupt Response Time (3.3 µs at 16.78 MHz)
- Reduced Pin Count Single-Chip Integration Module (RPSCIM) with Single-Chip and Expanded Modes of Operation
  - — 20-Bit Address Bus and 8/16 Bit Dynamically-Sized Data Bus
  - — Five Programmable Chip Select Outputs
  - — Seven Interrupt Levels and Programmable Edge/Level Sensitive Pins
  - — Watchdog Timer, Clock Monitor, External Bus Monitor, Programmable Real-Time Interrupts
  - — PLL/VCO Programmable System Clock Generation from 0 to 16.78 MHz
- General-Purpose Timer (GPT) with Three Input Capture/Four Output Compare Channels
  - — Additional Programmable Channel Can Be Configured as Input Capture or Output Compare
  - — One Pulse Accumulator/Pulse-Width Measurement Input
  - — Two Pulse-Width Modulated (PWM) Outputs
- Analog-to-Digital Converter (ADC) with 7.6 µs/8.6 µs 8/10 Bit Conversions at 16.78 MHz
  - — Eight Multiplexed Input Channels/Eight Result Registers
  - — Programmable Sample and Hold Times, Programmable ADC Clock
  - — +/– Two Counts Total Inaccuracy
  - — Fully Monotonic, No Missing Codes
- Queued Serial Module (QSM) with Queued Serial Peripheral Interface (QSPI) and Serial Communication Interface (SCI)
  - — QSPI is a Queued Full Duplex Clocked Synchronous Interface that Performs Up To 16 Programmed 8/16-Bit, LSB or MSB-First Transfers, Can Be Operated In Continuous Mode
  - — SCI is an RS-232C Type UART that Operates at Transfer Rates Up to 524 Kbaud with 16.78-MHz System Clock, Includes Parity Detection/Generation
- 48 Kbyte Flash EEPROM Module (FEM) and 2 Kbyte Flash Block-Erasable EEPROM Module (BEFLASH)
  - — Byte/Word Programming with 12-Volt External Input
  - — BEFLASH has Eight Independently-Erasable Blocks
- 2 Kbyte Static RAM Module (SRAM) with 25 ns (2 Clock) Access Time
  - — External Standby Voltage Supply Input for Low-Power Standby Operation
- 120-Pin Quad Flat Pack (QFP) Package

This document contains information on a new product. Specifications and information herein are subject to change without notice.



MC68HC916X1 Block Diagram

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