

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 μ s 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 μ s/8.6 μ s 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.



