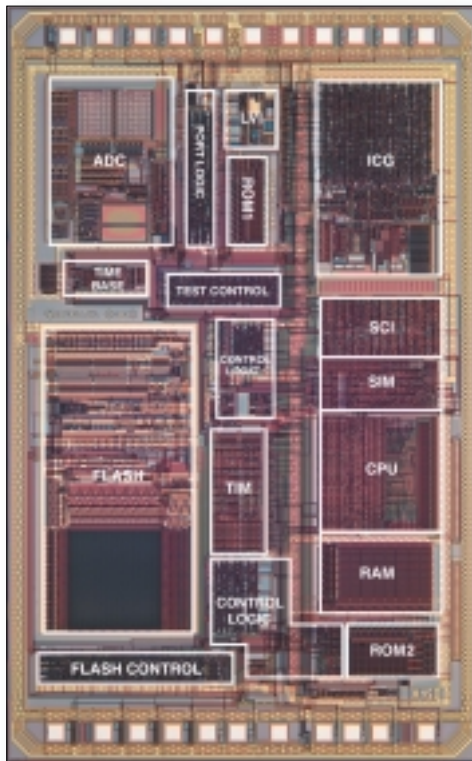


# 68HC908KX FAMILY

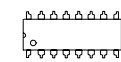
The Motorola 68HC908KX Family contains highly integrated 8-bit, 16-pin microcontrollers (MCU) with 2 Kbytes to 8 Kbytes embedded FLASH Memory. The 68HC908KX8 and 68HC908KX2 both contain an 8-bit, 4-channel ADC and a high-speed asynchronous serial port. In addition, the 68HC908KX8/2 features an Internal Clock Generator which eliminates the need for an external clock source and significantly reduces system cost.



## Features

- High performance 68HC08 architecture
- Maximum internal bus frequencies of:
  - 8 MHz at 5.0 V
  - 4 MHz at 3.0 V
- FLASHwire technology — a single wire interface for in-circuit programming which does not require high voltage for mode entry
- Internal Clock Generator (ICG) requiring no external components:
  - Software selectable bus frequencies
  - 25 percent accuracy with trim capability to 2 percent
  - Clock monitor
- Option to allow use of external clock source or external crystal/ceramic resonator
- 2 Kbytes or 8 Kbytes of on-chip, in-circuit programmable FLASH memory
- FLASH program memory security
- 192 bytes of on-chip Random-Access Memory (RAM)
- 16-bit, 2-channel Timer Interface (TIM) Module
- 4-channel, 8-bit, Analog-to-Digital Converter (ADC)
- Serial Communications Interface (SCI) module
- 5-bit Keyboard Interrupt (KBI) with wakeup feature
- 13 general purpose Input/Output (I/O) ports:
  - Five shared with KBI and TIM, with 15mA source/15mA sink capabilities
  - Four shared with ADC
  - Two shared with SCI
- Low-Voltage Inhibit (LVI) module with software selectable trip points
- TimeBase Module (TBM) with:
  - Clock prescaler for eight user-selectable, periodic real-time interrupts
  - Active clock source in stop mode for periodic wakeup from stop using external crystal or ICG
- External asynchronous interrupt pin with internal pullup ( $\overline{IRQ1}$ )
- System protection features:
  - Computer Operating Properly (COP) reset
  - Low-voltage detection with reset
  - Illegal opcode detection with reset
  - Illegal address detection with reset
- Low-power design fully static with stop and wait modes
- Internal power-up reset circuit requiring no external pins
- 16-pin Plastic Dual In-Line (PDIP) or Small Outline (SOIC) Package

16-Pin Plastic DIP



100 mil/2.54 mm Pitch  
.75 in x .25 in Body  
(100 mil x 600 mil pin centers)

16-Lead SOIC



50 mil/1.27 mm Pitch  
10.35 mm x 7.5 mm Body

# 68HC908KX

FAMILY

## DEVICE ORDERING INFORMATION

Production Order Part Number	Package Type	FLASH Size	Temperature Range	Available
MC68HC908KX8CP	16 DIP	8K	-40 to +85C	Now
MC68HC908KX8CDW	16 SOIC	8K	-40 to +85C	Now
MC68HC908KX2CP	16 DIP	2K	-40 to +85C	Q4 2000
MC68HC908KX2CDW	16 SOIC	2K	-40 to +85C	Q4 2000
MC68HC908KX8VP	16 DIP	8K	-40 to +105C	Now
MC68HC908KX8VDW	16 SOIC	8K	-40 to +105C	Now
MC68HC908KX2VP	16 DIP	2K	-40 to +105C	Q4 2000
MC68HC908KX2VDW	16 SOIC	2K	-40 to +105C	Q4 2000
MC68HC908KX8MP	16 DIP	8K	-40 to +125C	Now
MC68HC908KX8MDW	16 SOIC	8K	-40 to +125C	Now
MC68HC908KX2MP	16 DIP	2K	-40 to +125C	Q4 2000
MC68HC908KX2MDW	16 SOIC	2K	-40 to +125C	Q4 2000

## SAMPLE PACK ORDER NUMBERS

Production Order Part Number	Package Type	FLASH Size	Temperature Range	Available
KMC908KX8CP	16 DIP	8K	-40 to +85C	Now
KMC908KX8CDW	16 SOIC	8K	-40 to +85C	Now
KMC908KX2CP	16 DIP	2K	-40 to +85C	Q4 2000
KMC908KX2CDW	16 SOIC	2K	-40 to +85C	Q4 2000

## EASY TO ORDER KITS

Kit Name	Description	RESALE*
M68ICS08KX	KX Programmer/in-circuit debug kit	\$295
KITMMEVS08KX	Cost-effective real-time in-circuit emulator kit	\$1450
KITMMDS08KX	High performance real-time in-circuit emulator kit	\$3950

## INDIVIDUAL DEVELOPMENT TOOL COMPONENTS

Component Name	Description	RESALE*
M68EML08KX	Emulation module daughter board	\$495
M68TA08KX6P16	Target head adapter	\$150
M68DIP16SOIC	SOIC target head adapter	\$35
M68CBL05A	Target Cable	\$120

\*All prices are manufacturer's suggested US resale.

## Application Notes

- AN1853/D Embedding Microcontrollers in Domestic Refrigeration Appliances
- AN1831/D Using MC68HC908 On-Chip Programming Routines — ROM-Resident Routines in the MC68HC908GR8, MC68HC908KX8, MC68HC908JL3, MC68HC908JK3 and the MC68HC908JB8
- AN1843/D Vacuum Cleaner Reference Platform

## Comprehensive Development Support

Broad third party software and hardware support – see our web site at <http://www.mcu.motps.com>