Welcome to E-XFL.COM

Understanding Embedded - Microprocessors

Embedded microprocessors are specialized computing chips designed to perform specific tasks within an embedded system. Unlike general-purpose microprocessors found in personal computers, embedded microprocessors are tailored for dedicated functions within larger systems, offering optimized performance, efficiency, and reliability. These microprocessors are integral to the operation of countless electronic devices, providing the computational power necessary for controlling processes, handling data, and managing communications.

Applications of Embedded - Microprocessors

Embedded microprocessors are utilized across a broad spectrum of applications, making them indispensable in

Details	
Product Status	Obsolete
Core Processor	68020
Number of Cores/Bus Width	1 Core, 32-Bit
Speed	166MHz
Co-Processors/DSP	-
RAM Controllers	-
Graphics Acceleration	No
Display & Interface Controllers	-
Ethernet	-
SATA	-
USB	-
Voltage - I/O	5.0V
Operating Temperature	0°C ~ 70°C (TA)
Security Features	-
Package / Case	132-BQFP Bumpered
Supplier Device Package	132-PQFP (46x46)
Purchase URL	https://www.e-xfl.com/product-detail/nxp-semiconductors/mc68020eh16e

1.1 FEATURES

The main features of the MC68020/EC020 are as follows:

- Object-Code Compatible with Earlier M68000 Microprocessors
- Addressing Mode Extensions for Enhanced Support of High-Level Languages
- New Bit Field Data Type Accelerates Bit-Oriented Applications—e.g., Video Graphics
- An On-Chip Instruction Cache for Faster Instruction Execution
- Coprocessor Interface to Companion 32-Bit Peripherals—the MC68881 and MC68882 Floating-Point Coprocessors and the MC68851 Paged Memory Management Unit
- Pipelined Architecture with High Degree of Internal Parallelism Allowing Multiple Instructions To Be Executed Concurrently
- High-Performance Asynchronous Bus Is Nonmultiplexed and Full 32 Bits
- Dynamic Bus Sizing Efficiently Supports 8-/16-/32-Bit Memories and Peripherals
- Full Support of Virtual Memory and Virtual Machine
- Sixteen 32-Bit General-Purpose Data and Address Registers
- Two 32-Bit Supervisor Stack Pointers and Five Special-Purpose Control Registers
- Eighteen Addressing Modes and Seven Data Types
- 4-Gbyte Direct Addressing Range for the MC68020
- 16-Mbyte Direct Addressing Range for the MC68EC020
- Selection of Processor Speeds for the MC68020: 16.67, 20, 25, and 33.33 MHz
- Selection of Processor Speeds for the MCEC68020: 16.67 and 25 MHz

A block diagram of the MC68020/EC020 is shown in Figure 1-1.

Freescale Semiconductor, Inc.

For More Information On This Product,
Go to: www.freescale.com