

## C68000 FEATURES

- ◆ Motorola® MC68000-compatible
- ◆ Dedicated application debugging environment - the **EASE-68000**
- ◆ 32-bit internal architecture
- ◆ Up to 4 GB of linear addressing space
- ◆ Supervisor and user operation modes with separate stacks

## 32-BIT SPECIFIC

- ◆ 32-bit fast synchronous memory interface
- ◆ AMBA® AHB system bus compatible

## 16-BIT SPECIFIC

- ◆ 16-bit memory interface
- ◆ Motorola® MC68000 replacement

# C68000

Motorola® MC68000-compatible Microprocessor

## OVERVIEW

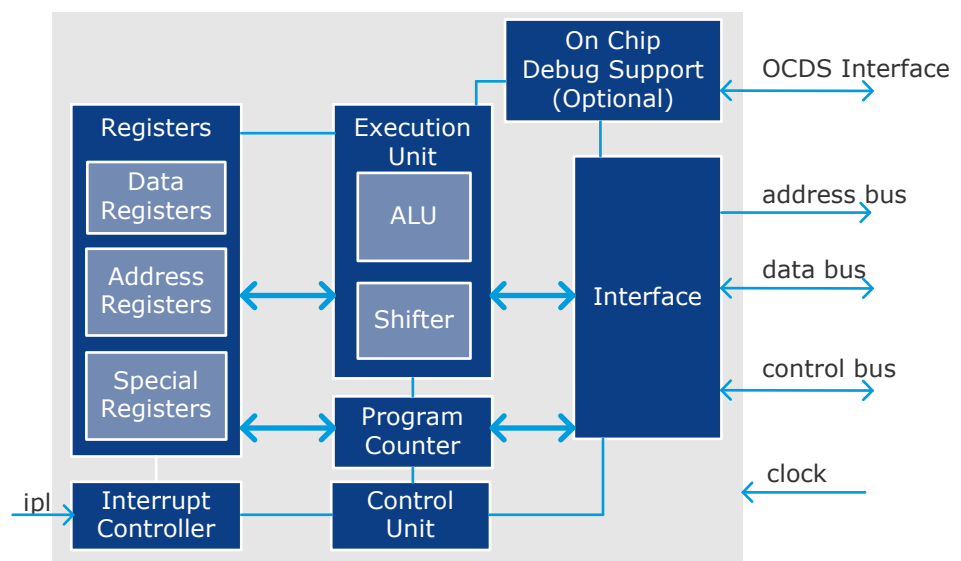
The **C68000** is a powerful 16/32-bit microprocessor IP which executes the instruction list compatible with the Motorola® MC68000 microprocessor.

The **C68000** is delivered in two versions: 16-bit, which is a pin replacement of the Motorola® MC68000 microprocessor, and the 32-bit version, which implements the AMBA® AHB interface for straightforward implementation of the **C68000** into such interfaced systems.

The 16-bit version of the **C68000** is targeted as an exact functional and pin replacement of the original microprocessor chip, which is now an unavailable obsolete part.

The 32-bit version is a fully functional, relatively fast 32-bit microprocessor aimed at small, budget Systems-on-Chips.

## BLOCK DIAGRAM



# C68000

## BENEFITS

- ◆ Due to popularity of its architecture the **C68000** has a variety of industry-certified software available to use
- ◆ Obsolete IP cores, on contrary to original chips, can be easily integrated in SoC designs targeted to FPGAs or ASICs
- ◆ Having the IP core of the processor guarantees independence from the chip vendor
- ◆ Customer may take the advantage of the fact the **C68000** is faster than the original MC68000 so it can work more efficiently in applications at a lower clock rate

## APPLICATIONS

- ◆ 32-bit data processing applications
- ◆ High speed control systems
- ◆ SoC designs based on AHB bus
- ◆ Professional audio and video
- ◆ Sensors applications

## RELATED PRODUCTS

**EASE 68000** - a special set of hardware and software solutions for all variations of the **C68000** microprocessor that allows in-system core debugging while a user application is being executed.

## STANDARD DELIVERABLES

- ◆ VHDL/Verilog source code
- ◆ Synthesis support for Synopsys® tools with a set of synthesis scripts
- ◆ Simulation support for Mentor Graphics®, Aldec® and Cadence® tools with a set of scripts and macros
- ◆ Extensive VHDL/Verilog 2001 test bench
- ◆ Documentation:
  - ▶ Design Specification
  - ▶ Verification Specification
  - ▶ Test Plan
  - ▶ Integration Manual
  - ▶ User Guide
- ◆ 30 days of technical support
- ◆ 90 days of warranty against defects

## DELIVERY OPTIONS

- ◆ EDIF netlist for FPGA and low volume production
- ◆ **EASE 68000** - a complete application debugging solution
- ◆ Dedicated interrupt controller (32-bit version only)
- ◆ Evaluation system based on the **EB-5 Tiny** evaluation board and Xilinx or Altera FPGA
- ◆ One-year maintenance
- ◆ On-site support and training



For more information on our IP portfolio visit [www.evatronix-ip.com](http://www.evatronix-ip.com)



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