

CZ80CPU

Zilog® Z80-compatible Microprocessor

MAJOR FEATURES

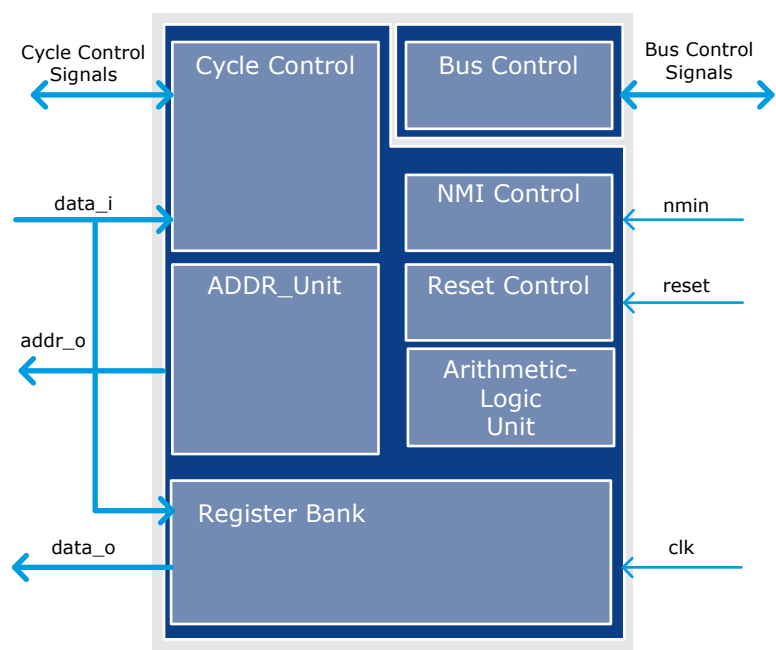
- ◆ Zilog® Z80-compatible
- ◆ Control Unit with an 8-bit Instruction decoder
- ◆ Arithmetic-Logic Unit for 8/16-bit arithmetic and 8-bit logical operations
- ◆ Register File Unit with a duplicate set of both general purpose and flag registers
- ◆ Two 16-bit index registers
- ◆ Interrupt Controller with three modes of maskable interrupts and a non-maskable interrupt
- ◆ External Memory interface that addresses up to 64KB of program/data memory
- ◆ On-core dynamic memory refresh counter

OVERVIEW

The **CZ80CPU** is a fully functional 8-bit processor IP core that has the same instruction set as the Zilog® Z80. The **CZ80CPU** processor has a 16-bit address bus capable of direct access to 64kB of memory space. It implements a language of 252 root instructions with the reserved 4 bytes as prefixes, and accesses an additional number of 308 instructions.

Programming features contain 208 bits of read/write memory that are accessible to the programmer. The internal registers include an accumulator and six 8-bit registers that can be paired as three 16-bit registers. In addition to general registers, a 16-bit stack-pointer, 16-bit program-counter and two 16-bit index registers are provided.

BLOCK DIAGRAM



CZ80CPU

BENEFITS

- ◆ The core can be used as an equivalent of Zilog® Z80, that due to its popularity has variety of industry certified software ready to be used
- ◆ Easy implementation in SoC designs targeted to FPGAs or ASICs
- ◆ Significant performance improvements over original Z80

APPLICATIONS

- ◆ 8-bit data processing applications
- ◆ Low power consumption applications
- ◆ High speed control systems

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:
 - ▶ Architectural Overview
 - ▶ Hardware Description
 - ▶ User Guide
- ◆ A collection of Z80 assembler programs executed directly by the test bench
- ◆ 30 days of technical support
- ◆ 90 days of warranty against defects

DELIVERY OPTIONS

- ◆ EDIF netlist for FPGA and low volume production
- ◆ Evaluation system for proprietary **EB5-Tiny** board
- ◆ One-year maintenance
- ◆ On-site support and training



For more information on our IP portfolio visit www.evatronix-ip.com



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