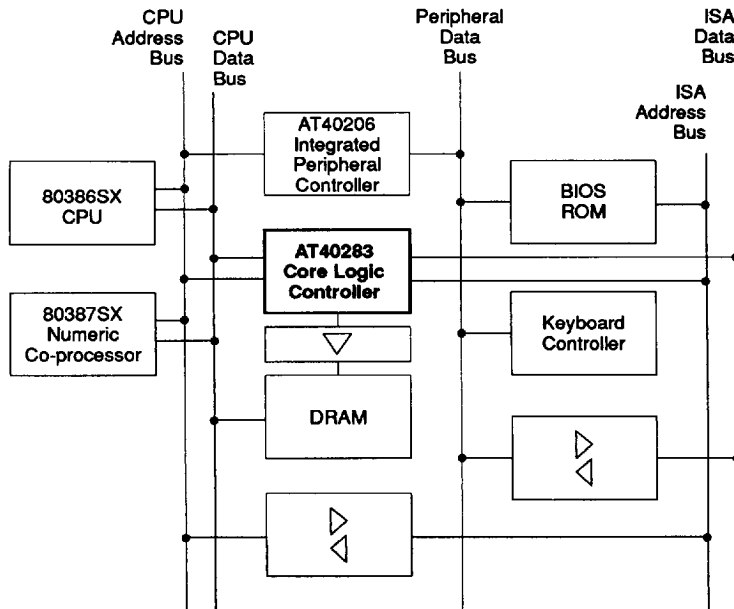


Features

- One-Chip PC/AT Compatible Core Logic Controller for 80386SX Systems operating up to 33 MHz
- One 160-Pin Quad Flatpack, 1-Micron CMOS Technology
- CPU Interface and ISA Bus Control
- Numeric Co-processor Support
- OS/2 Alternate Hot Reset Support
- Programmable Clock Generator for the ISA Bus
- Port B Register and NMI Logic
- 256K, 1-Mbit and 4-Mbit DRAM Support
- Up to 16 Mbytes Platform Memory
- Shadow RAM Support
- Multiple Interleave Paging (MIP™) of Platform Memory

386SX Core Logic Controller

System Block Diagram





Description

The Atmel AT40283 is a highly integrated single-chip core logic controller for 80386SX PC/AT systems operating up to 33MHz. The chip integrates system control functions including reset logic and generation of the system clocks (CPU clock, ISA bus clock and the 1.19 MHz clock for the timer input), the local bus and ISA bus controllers and the memory controller. The AT40283 decodes the CPU and ISA bus states to arbitrate among the various bus masters in the system. Data bus conversion, bus steering functions and data buffers and latches are all integrated on chip.

A variety of memory configurations and types of DRAMs can be used with the AT40283. Platform memory parity checking and generation are supported along with shadow RAM for BIOS, single ROM/EPROM for BIOS and address remapping

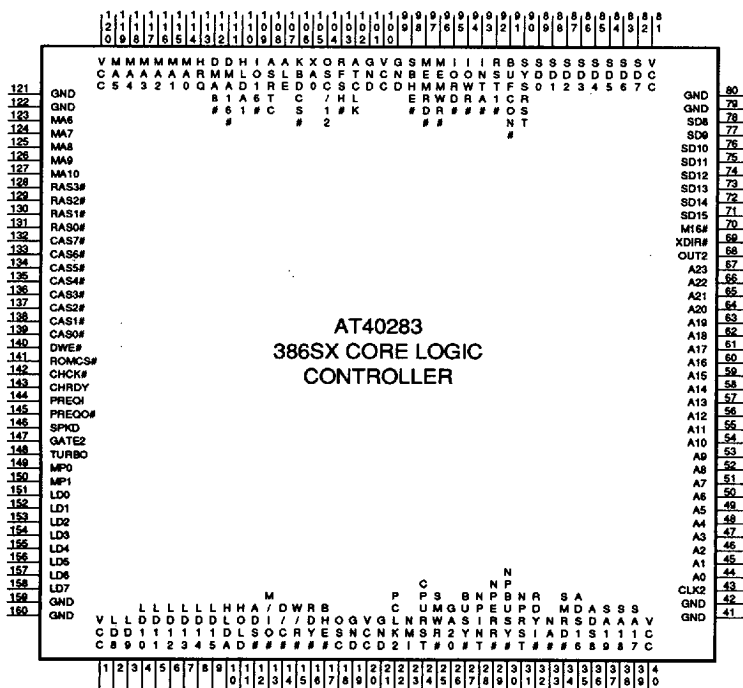
of the unused memory between 640K and 1 Mbit to the top of memory.

The AT40283 also incorporates Multiple Interleaved Paging (MIP) of the platform memory which improves performance by minimizing the number of wait states required during DRAM accesses.

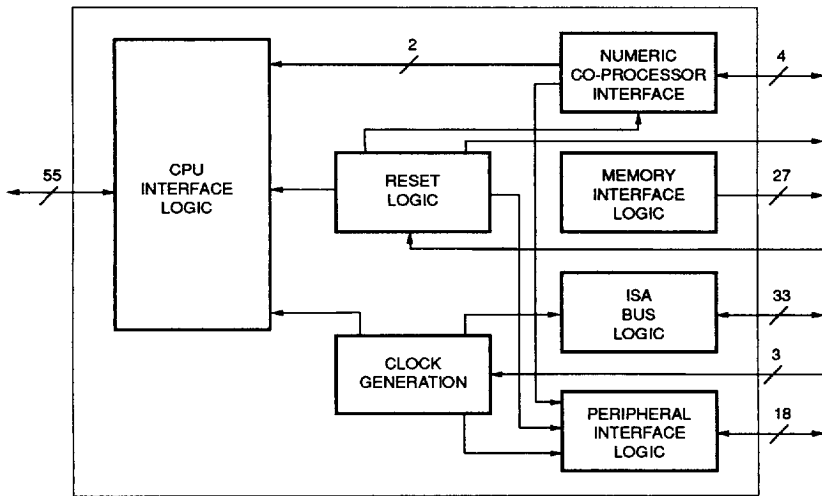
The programmable functions of the AT40283 are programmed through five Configuration Registers.

Together with a standard peripheral controller such as the AT40206 IPC and a minimum number of other components, the AT40283 implements a high performance, yet low cost, 80386SX PC/AT system.

Pin Configuration



Core Logic Controller Block Diagram





Ordering Information

CPU Clock (MHz)	Power Supply	Ordering Code	Package	Operation Range
16	5V±5%	AT40283-16	160Q	Commercial (0° to 70°C)
20	5V±5%	AT40283-20	160Q	Commercial (0° to 70°C)
25	5V±5%	AT40283-25	160Q	Commercial (0° to 70°C)
33	5V±5%	AT40283-33	160Q	Commercial (0° to 70°C)

Package Type	
160Q	160 Lead, Plastic Gull Wing Quad Flat Package (Flatpack)