

AB180-20

Fast 8-bit OCA Processor
for General Purpose and
Protocol Engines Processors



A B S e m i c o n

PRODUCT SPECIFICATIONS

- ☐ 20Mhz CPU Clock Frequency - 40Mhz Bus
- ☐ Many instructions executed in a single clock cycle using industry standard instruction set
- ☐ Versatile memory controller
- ☐ 100-pin PQFP package
- ☐ Low Power consumption
- ☐ Single (3.3v) or dual voltage (3.3/5v) C-MOS Technology
- ☐ Sync serial I/O, 2 x DMA Controller, 2 x 16bit timers



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Specification of this device is subject to change

Version 1

AB180-20

A B S e m i c o n

The AB180-20 is a fast, state-of-the-art microprocessor that uses AB Semicon's unique OCA (One Cycle Architecture) technology. The AB180-20 is ideal for both 5V and 3.3V designs and is code compatible with the popular Z80, Z180 and HD 64180 instruction sets.

Driven by a 5Mhz crystal oscillator and Phased Locked Loop (PLL), the Processor generates the on chip 40Mhz and 20Mhz clocks. The address bus is connected to the outside world giving a 20bit externally addressable RAM or ROM space. Two DMA channels Memory to Memory, Memory to I/O and I/O to Memory are available. The processor wakes up in 3 Wait State Mode allowing a lower speed external ROM to be used.

The AB180-20, running with the crystal oscillator, will execute code with 3 times the speed of a 33MHz 64180 MPU, and more than 50 times faster than a traditional Z80 in typical applications due to the ability to execute each instruction in fewer clock cycles. Many applications will see far greater increases in speed, especially if extensive use is made of the block-move instructions.

Example: in an application where the existing processor is already fully utilised, this low cost microprocessor can take over all of the work handling Network Protocol Stacks and supplying the raw data to the Printer Controller. It can also manage the SNMP data to and from the Printer Controller or NPMP™ management information without taking up any of the main Printer Controller's time.

APPLICATIONS

NETWORK CONNECTED DEVICES

DIGITAL CAMERAS

CELL PHONES

AUTOMOTIVE

MOTOR CONTROLLERS

PROTOCOL ENGINE

TELEPHONE SYSTEMS

FAX MACHINES

PDAs

ACCESS CONTROL

