Winbond
Electronics Corp.

8 BIT MICROCONTROLLER

GENERAL DESCRIPTION

The W78E516B is an 8-bit microcontroller which has an in-system programmable MTP-ROM for firmware updating. The instruction set of the W78E516B is fully compatible with the standard 8052. The W78E516B contains a 64K bytes of main MTP-ROM and a 4K bytes of auxiliary MTP-ROM which allows the contents of the 64KB main MTP-ROM to be updated by the loader program located at the 4KB auxiliary MTP-ROM; 512 bytes of on-chip RAM; four 8-bit bi-directional and bit-addressable I/O ports; an additional 4-bit port P4; three 16-bit timer/counters; a serial port. These peripherals are supported by a eight sources two-level interrupt capability. To facilitate programming and verification, the MTP-ROM inside the W78E516B allows the program memory to be programmed and read electronically. Once the code is confirmed, the user can protect the code for security.

The W78E516B microcontroller has two power reduction modes, idle mode and power-down mode, both of which are software selectable. The idle mode turns off the processor clock but allows for continued peripheral operation. The power-down mode stops the crystal oscillator for minimum power consumption. The external clock can be stopped at any time and in any state without affecting the processor.

FEATURES

- Fully static design 8-bit CMOS microcontroller up to 40MHz.
- 64K bytes of in-system programmable MTP-ROM for Application Program (APROM).
- 4K bytes of auxiliary MTP-ROM for Loader Program (LDROM).
- 512 bytes of on-chip RAM. (including 256 bytes of AUX-RAM, software selectable)
- 64K bytes program memory address space and 64K bytes data memory address space.
- Four 8-bit bi-directional ports.
- One 4-bit multipurpose programmable port.
- Three 16-bit timer/counters
- One full duplex serial port
- Six-sources, two-level interrupt capability
- Built-in power management
- Code protection
- PACKAGE
 -DIP   40 :W78E516B-24/40
 -PLCC 44 :W78E516BP-24/40
 -PQFP 44: W78E516BF-24/40