Winbond Electronics Corp.

# 8-BIT MICROCONTROLLER

## GENERAL DESCRIPTION

The W78L54 microcontroller supplies a wider frequency and supply voltage range than most 8-bit microcontrollers on the market. It is compatible with the industry standard 80C54 microcontroller series. The W78L54 contains four 8-bit bidirectional parallel ports, one extra 4-bit bit-addressable I/O port (Port 4) and two additional external interrupts ($\overline{INT2}$, $\overline{INT3}$), three 16-bit timer/counters, one watchdog timer and a serial port. These peripherals are supported by a eight-source, two-level interrupt capability. There are 256 bytes of RAM and an 16K byte mask ROM for application programs.

The W78L54 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
- Supply voltage of 1.8V to 5.5V
- DC-24 MHz operation
- 256 bytes of on-chip scratchpad RAM
- 16K bytes of on-chip mask ROM
- 64K bytes program memory address space
- 64K bytes data memory address space
- Four 8-bit bidirectional ports
- Three 16-bit timer/counters
- One full duplex serial port
- Eight-source, two-level interrupt capability
- One extra 4-bit bit-addressable I/O port
- Two additional external interrupts $\overline{INT2}$ / $\overline{INT3}$
- Watchdog timer
- EMI reduction mode
- Built-in power management
- Code protection
- Packages:
  - DIP 40: W78L54-24
  - PLCC 44: W78L54P-24
  - QFP 44: W78L54F-24