DALLAS SEMICONDUCTOR

DS80C323
Low–Power Micro

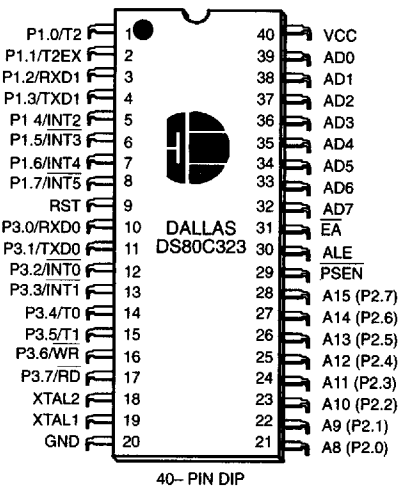
FEATURES

- 80C32–Compatible
  - Pin–compatible
  - Standard 8051 instruction set
  - Four 8–bit I/O ports
  - Three 16–bit timer/counters
  - 256 bytes scratchpad RAM
  - Multiplexed address/data bus
  - Addresses 64KB ROM and 64KB RAM
- **Operates between 2.7V and 5.5V**
- High–speed architecture
  - 4 clocks/machine cycle (8032=12)
  - Wasted cycles removed
  - Runs DC to 20 MHz clock rate @ 2.7V
  - Single–cycle instruction in 200 ns
  - Uses less power for equivalent work
  - Dual data pointer
  - Optional variable length MOVX to access fast/ slow RAM /peripherals
- High integration controller includes:
  - Power–fail reset
  - Programmable Watchdog timer
  - Early–warning power–fail interrupt
- Two full–duplex hardware serial ports
- 13 total interrupt sources with six external
- Available in 40–pin DIP, 44–pin PLCC and TQFP

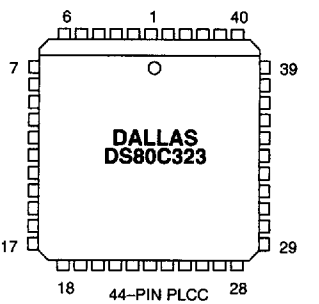
DESCRIPTION

The DS80C323 is a fast 80C31/80C32–compatible microcontroller. Wasted clock and memory cycles have been removed using a redesigned processor core. As a result, every 8051 instruction is executed between 1.5 and 3 times faster than the original for the same crystal speed. Typical applications will see a speed improvement of 2.5 times using the same code and same crystal. At 2.7V, the DS80C323 offers a maximum crystal rate of 20 MHz, resulting in apparent execution speeds of 50 MHz (approximately 2.5X).

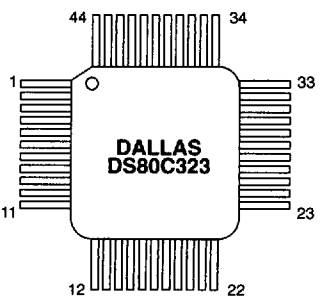
PIN ASSIGNMENT



40– PIN DIP



44–PIN PLCC



44–PIN TQFP