NEC

NEC Electronics Inc.

μPD7507H/08H/75CG08HE 4-BIT, SINGLE-CHIP CMOS MICROCOMPUTERS

Description

The μPD7507H, μPD7508H, and μPD75CG08HE are pin-compatible, high-speed (4.19 MHz), 4-bit, single-chip CMOS microcomputers with the μPD7500 series architecture. The subroutine stack is implemented in RAM for greater nesting depth and flexibility.

Thirty-two I/O lines are organized into eight 4-bit ports: input port/serial interface port 0, output ports 2 and 3, and I/O ports 1, 4, 5, 6, and 7.

The μPD7507H and μPD7508H execute 92 instructions of the μPD7500 series A instruction set with a 2.86-μs instruction cycle time.

Maximum power consumption is 3 mA at 5 V and less in the HALT and STOP low-power modes.

The 75CG08HE is a piggyback EPROM prototyping chip that is pin-compatible with 7507H and 7508H. A 2716 plugged into the top of the 75CG08HE emulates the ROM of a 7507H. A 2732 emulates the ROM of 7508H. When emulating the 7507H, the user must take care to use only the first 128 RAM locations. Although 7507H and 7508H can operate over a range of 2.7 to 6.0 V, 75CG08HE is limited to 5 V ±10%.

Features

- ☐ Single-chip microcomputer
- ☐ Program ROM
  - — μPD7507H: 2048 x 8-bit
  - — μPD7508H: 4096 x 8-bit
  - — μPD75CG08HE: piggyback EPROM
- ☐ Data RAM
  - — μPD7507H: 128 x 4-bit
  - — μPD7508H: 224 x 4-bit
  - — μPD75CG08HE: 224 x 4-bit
- ☐ 8-bit timer/event counter
- ☐ Four 4-bit general purpose registers
- ☐ Four vectored, prioritized interrupts
- ☐ Executes 92 instructions of 7500 series A instruction set
- ☐ 2.86-μs instruction cycle/4.19-MHz external clock
- ☐ Two standby modes
- ☐ 32 I/O lines
- ☐ LED direct drive (ports 2-5; 16 lines)
- ☐ Low power HALT and STOP modes

Ordering Information

Part No.	Package Type	Max Frequency of Operation
μPD7507HC	40-pin plastic DIP	4.19 MHz
μPD7507HCU	40-pin plastic shrink DIP	4.19 MHz
μPD7507HG-22	44-pin plastic miniflat	4.19 MHz
μPD7508HC	40-pin plastic DIP	4.19 MHz
μPD7508HCU	40-pin plastic shrink DIP	4.19 MHz
μPD7508HG-22	44-pin plastic miniflat	4.19 MHz
μPD75CG08HE	40-pin ceramic piggyback DIP	4.19 MHz

Block Diagram