NEC
NEC Electronics Inc.

μPD79021
16-Bit Microcomputer: Single-Chip, CMOS, With Built-In RTOS

T-49-17-57

Description

The μPD79021 is an upgraded μPD70332 (V35™) single-chip microcomputer with a built-in real-time operating system (RTOS).

The μPD79021 provides high-speed multitask processing particularly suited for real-time event processing and as a kernel of an embedded control system for process control and data processing applications.

The RTOS kernel provides extensive system calls for task synchronization, control, and communication as well as interrupt and time management.

The μPD79021 instruction set is the same as the V35 instruction set. The μPD79021 hardware is also identical to the standard V35, but uses 6K of the internal ROM for RTOS system code. Refer to the V35 Data Sheet for hardware-related details and the μPD79011 Data Sheet for RTOS system call descriptions.

Features

- Real-time multitask processing
- Supports five types of system calls
  - Task management
  - Communication management
  - Memory management
  - Time management
  - Interrupt management
- High-speed response to events
  - System call processing shortens time to 41 μs (minimum) when operated at 8 MHz
  - High-speed task switching using V35 register banks
- Flexibility to perform status changes by event driven task scheduling function
- System clock: 8 MHz maximum
- V35 hardware compatibility
- CMOS technology
- Development tools
  - V35 software can be used without modification
  - Relocatable assembler (RA70320)
  - C compiler (CC70116)
  - Concurrent CP/M®, MS-DOS®, VMS™, and UNIX™ base

Ordering Information

Part Number	Clock	Package
μPD79021L-8	8 MHz	84-pin PLCC
GJ-8	8 MHz	94-pin plastic QFP

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CP/M is a registered trademark of Digital Research, Inc.
MS-DOS is a registered trademark of Microsoft Corporation.
VMS is a trademark of Digital Equipment Corporation.
UNIX is a trademark of AT&T Bell Laboratories.

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μPD79021 Block Diagram