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# M37450M2-XXXSP/FP, M37450M4-XXXSP/FP M37450M8-XXXSP/FP

MITSUBISHI (MICMPTR/MIPRC) 61E D

SINGLE-CHIP 8-BIT CMOS MICROCOMPUTER

## DESCRIPTION

The M37450M2-XXXSP/FP is a single-chip microcomputer designed with CMOS silicon gate technology. It is housed in a 64-pin shrink plastic molded DIP or an 80-pin plastic molded QFP.

In addition to its simple instruction sets, the ROM, RAM, and I/O addresses are placed on the same memory map to enable easy programming.

It is suited for office automation equipment and control devices. The low power consumption made by the use of a CMOS process makes it especially suitable for battery powered devices requiring low power consumption. It also has a unique feature that enables it to be used as a slave microcomputer.

The differences among M37450M2-XXXSP/FP, M37450M4-XXXSP/FP and M37450M8-XXXSP/FP are as shown below. The descriptions that follow describe the M37450M2-XXXSP/FP (abbreviated as M37450) unless otherwise noted.

| Type name         | ROM size    | RAM size  |
|-------------------|-------------|-----------|
| M37450M2-XXXSP/FP | 4096 bytes  | 128 bytes |
| M37450M4-XXXSP/FP | 8192 bytes  | 256 bytes |
| M37450M8-XXXSP/FP | 16384 bytes | 384 bytes |

The number of analog input pins for the 80-pin model (FP version) is different from the 64-pin model (SP version). In addition, the 80-pin model has special pins for RD, WR, RESET<sub>OUT</sub>, DAV<sub>REF</sub>, ADV<sub>REF</sub>, AV<sub>CC</sub> and the 64-pin model has a special V<sub>REF</sub> pin.

## FEATURES

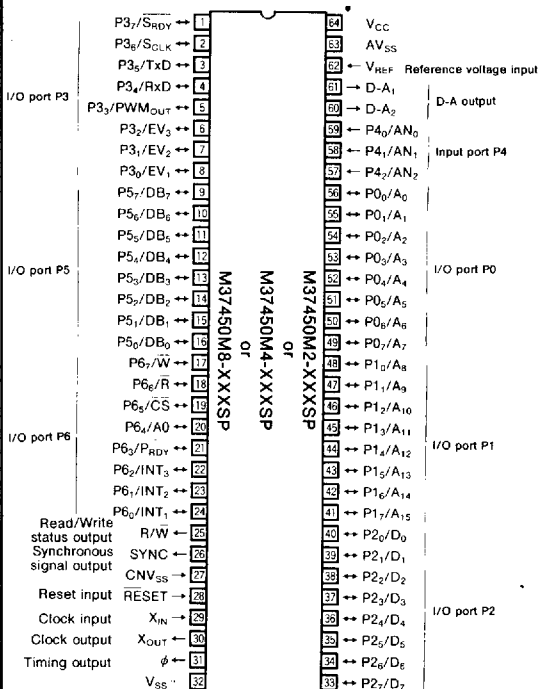
- Number of basic instructions ..... 71  
69 MELPS 740 basic instructions + 2 multiply/divide instructions
- Instruction execution time  
(minimum instructions at 10MHz frequency) ..... 0.8μs
- Single power supply ..... 5V ± 10%
- Power dissipation normal operation mode  
(at 10MHz frequency) ..... 30mW
- Subroutine nesting ..... 64 levels max. (M37450M2)
- Interrupt ..... 15 events
- Master CPU bus interface ..... 1 byte
- 16-bit timer ..... 3
- 8-bit timer (Serial I/O use) ..... 1
- Serial I/O (UART or clock synchronous) ..... 1
- A-D converter (8-bit resolution) ..... 3 channels (DIP)  
8 channels (QFP)
- D-A converter (8-bit resolution) ..... 2 channels
- PWM output (8 bit or 16 bit) ..... 1
- Programmable I/O ports  
(Ports P0, P1, P2, P3, P5, P6) ..... 48
- Input port (Port P4) ..... 3 (DIP), 8 (QFP)
- Output ports (Ports D-A<sub>1</sub>, D-A<sub>2</sub>) ..... 2

## APPLICATION

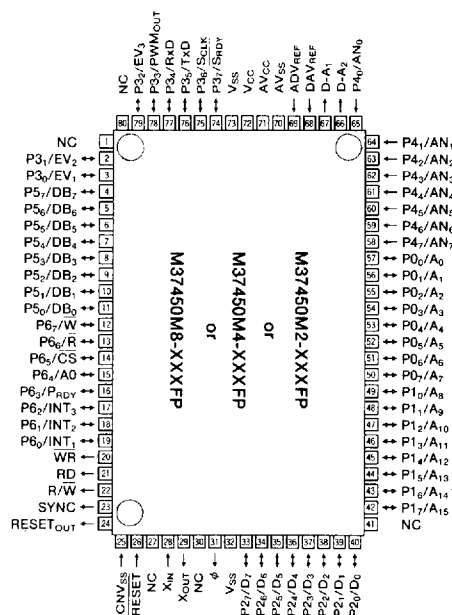
Slave controller for PPCs, facsimiles, and page printers.  
HDD, optical disk, inverter, and industrial motor controllers.  
Industrial robots and machines.

## MITSUBISHI MICROCOMPUTERS

## PIN CONFIGURATION (TOP VIEW)



Outline 64P4B



Outline 80P6

NC : No connection