

**FUJITSU** FUJITSU MICROELECTRONICS, INC.

# MB8541P

Product Profile

## CMOS 256-bit Sequential Programmable Read Only Memory

### GENERAL DESCRIPTION

The Fujitsu MB8541P is a CMOS 256 x 1 bit programmable sequential-access read only memory with an on-chip address counter, which is automatically incremented by CLK input and can be reset by RST input.

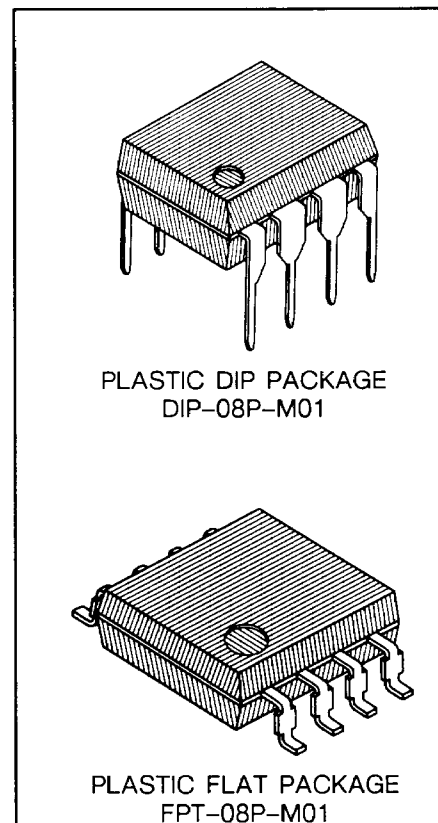
The MB8541P is electrically programmed by the user themselves. All memory bits are in the "H" state before being programmed into the selected memory cells through a simple programming procedure.

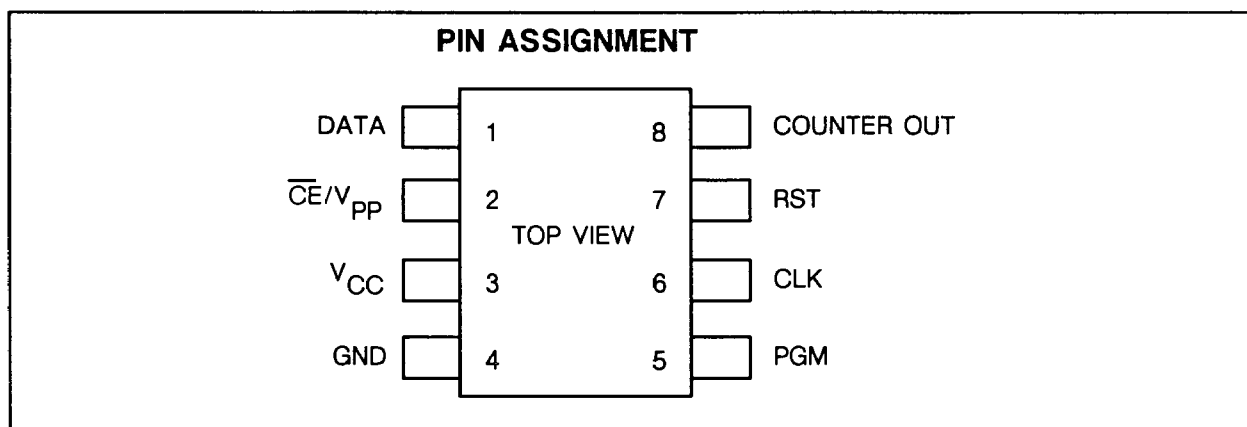
Each memory cell is constructed with a stacked gate single-MOS transistor. The peripheral circuits are fabricated using CMOS technology to achieve the low power dissipation.

The MB8541P is useful for such applications as citizens band radio, radio-telephone, cordless-telephone, or signal generator of various terminal machines. The guaranteed temperature range and power supply tolerance are very wide.

- 256 words x 1 bit organization
- Built-in address counter with reset
- Serial output by clock input
- Programmable with a 9ms pulse
- 3-state output
- Low power consumption
  - Active: 50mW max @ 5V
  - Standby: 100 $\mu$ W max @ 5V
- Wide supply voltage
  - +3V to +8V
- Wide operation temperature range
  - 40°C to +85°C
- Standard 8-pin DIP package (Suffix: -P)
- Standard 8-pin flat package (Suffix: -PF)

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**FUNCTION TRUTH TABLE**

| Pin Name<br>Mode    | CLK      | RST      | DATA      | COUNTER OUT | $\overline{CE}/V_{PP}$ | PGM      | $V_{CC}$ | GND |
|---------------------|----------|----------|-----------|-------------|------------------------|----------|----------|-----|
| Standby             | X*1      | X*1      | High-Z    | High-Z      | $V_{IH}$               | X*1      | $V_{CC}$ | GND |
| Counter Reset       | X        | ↑        | X         | VOL         | *2                     | X        | $V_{CC}$ | GND |
| Counter Increment   | ↓        | $V_{IL}$ | X         | A7 OUTPUT*3 | *2                     | X        | $V_{CC}$ | GND |
| Read                | X        | X        | $D_{OUT}$ | A7 OUTPUT   | $V_{IL}$               | X        | $V_{CC}$ | GND |
| Program             | $V_{IL}$ | $V_{IL}$ | $D_{IN}$  | High-Z      | $V_{PP}$               | $V_{IH}$ | $V_{CC}$ | GND |
| Verify              | X        | X        | $D_{OUT}$ | A7 OUTPUT   | $V_{IL}$               | X        | $V_{CC}$ | GND |
| Program Inhibit     | X        | X        | High-Z    | High-Z      | $V_{PP}$               | $V_{IL}$ | $V_{CC}$ | GND |
| Service Cell Select | X        | X        | —         | —           | X                      | 18V      | $V_{CC}$ | GND |

- Notes:**
- ↑ : Positive edge trigger
  - ↓ : Negative edge trigger
  - X : Either  $V_{IL}$  or  $V_{IH}$
  - \*1 : Either  $V_{CC}$  or Open to reduce ISB
  - \*2 : Either  $V_{IL}$  or  $V_{PP}$
  - \*3 : The COUNTER OUT to be kept High-Z at  $\overline{CE}/V_{PP}=V_{PP}$