

**FUJITSU****CMOS 1M-BIT  
MASK-PROGRAMMABLE  
READ ONLY MEMORY****MB831000-15  
MB831000-20**November 1987  
Edition 2.0**1M-BIT (131,072 x 8) CMOS READ ONLY MEMORY**

The Fujitsu MB 831000 is a CMOS Si-gate mask-programmable static read only memory organized as 131,072 words by 8 bits.

The MB 831000 has TTL-compatible I/O and 3-state output level with fully static operation (i.e. no need of clock signal) and a single +5V power supply is required. Also, the MB 831000 is designed for applications such as character generator or program storage which require large memory capacity and high-speed/low-power operation.

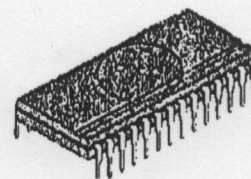
- Organization: 131,072 words x 8 bits
- Access time: 150 ns (MB 831000-15)  
200 ns (MB 831000-20)
- Completely static operation: No clock required
- TTL compatible Input/Output
- Three state output
- Single +5V power supply
- Power dissipation: 220 mW max. (Active)  
16.5 mW max. (Standby, TTL input level)  
275  $\mu$ W max. (Standby, CMOS input level)
- Standard 28-pin DIP

**ABSOLUTE MAXIMUM RATINGS (See NOTE)**

Rating	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	0.3 to +7.0*	V
Input Voltage	$V_{IN}$	0.5 to $V_{CC} + 0.5$ *	V
Output Voltage	$V_{OUT}$	0.5 to $V_{CC} + 0.5$ *	V
Temperature Under Bias	$T_{BIAS}$	-10 to +85	°C
Storage Temperature Range	$T_{STG}$	-45 to +125	°C

\* Referenced to GND

**NOTE:** Permanent device damage may occur if ABSOLUTE MAXIMUM RATINGS are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



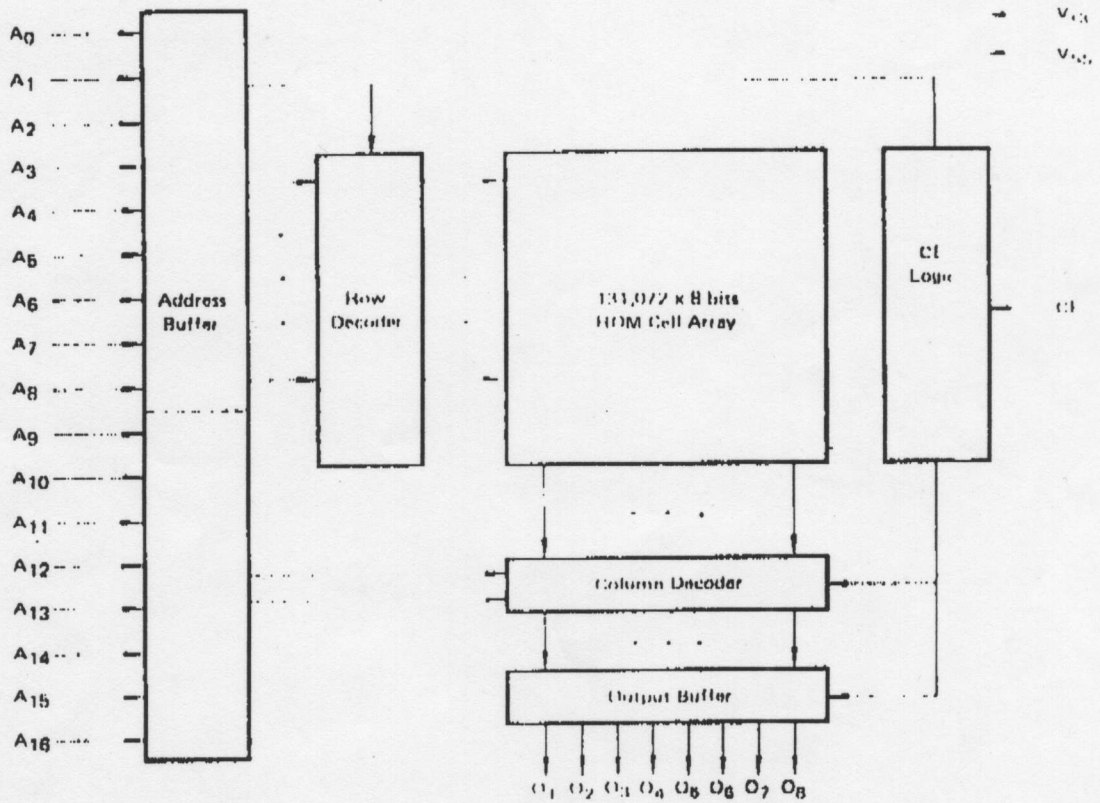
**PLASTIC PACKAGE  
DIP-28P-M02**

**PIN ASSIGNMENT**

A <sub>16</sub>	1	28	$V_{CC}$
A <sub>12</sub>	2	27	A <sub>14</sub>
A <sub>7</sub>	3	26	A <sub>13</sub>
A <sub>6</sub>	4	25	A <sub>8</sub>
A <sub>5</sub>	5	24	A <sub>9</sub>
A <sub>4</sub>	6	23	A <sub>11</sub>
A <sub>3</sub>	7	22	A <sub>10</sub>
A <sub>2</sub>	8	21	A <sub>15</sub>
A <sub>1</sub>	9	20	Cl
A <sub>0</sub>	10	19	O <sub>0</sub>
O <sub>1</sub>	11	18	O <sub>7</sub>
O <sub>2</sub>	12	17	O <sub>6</sub>
O <sub>3</sub>	13	16	O <sub>5</sub>
V <sub>SS</sub>	14	15	O <sub>4</sub>

This device contains circuitry to protect the inputs against damage due to high static voltages or electric fields. However, it is advised that normal precautions be taken to avoid application of any voltage higher than maximum rated voltages to this high impedance circuit.

Fig. 1 MB831000 BLOCK DIAGRAM



TRUTH TABLE

CL	MODE	Output	Power Dissipation Mode
0	Not selected	High-Z	Standby
1	Selected	Output	Active

CAPACITANCE (T<sub>A</sub> = 25°C, f = 1MHz)

Parameter	Symbol	Min	Typ	Max	Unit
Output Capacitance (V <sub>OUT</sub> = 0V)	C <sub>OUT</sub>			10	pf
Input Capacitance (V <sub>IN</sub> = 0V)	C <sub>IN</sub>			7	pf