

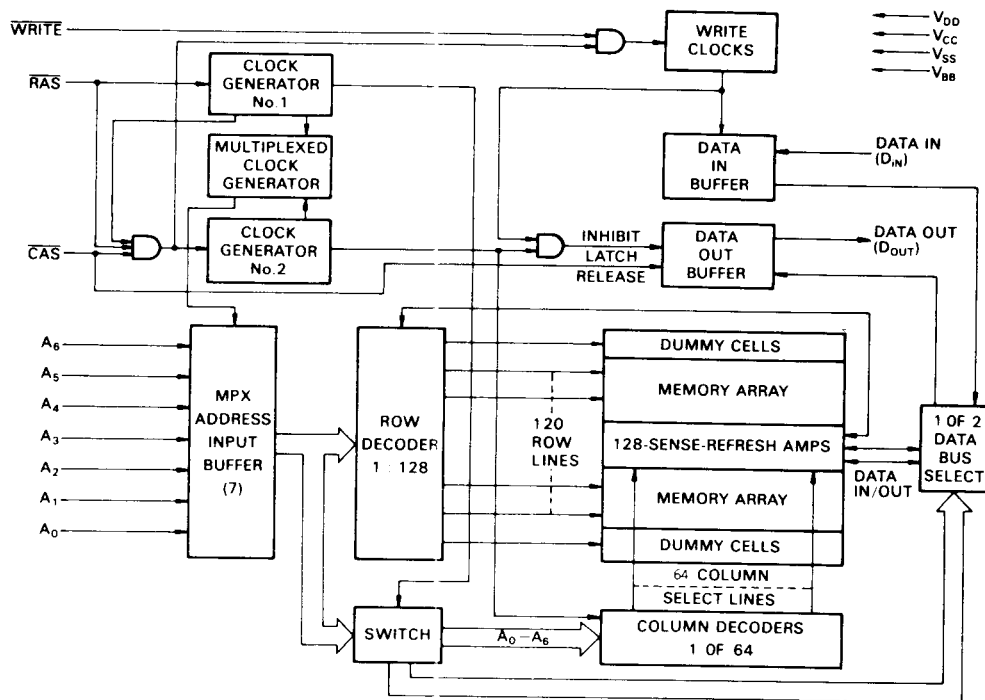
MICROCOMPUTER and PERIPHERAL LSI's

MOS LSI Memories

| Type No. | Function | Maximum Ratings (Ta=25°C) | Electrical Characteristics (Ta=25°C) | | | | | | | | | |
|-------------------------|-----------------------------|---|--------------------------------------|---------------------------------|---|-----------------|-----------|--------------------------|----------|-----|----|----|
| | | | Item | Symbol | Condition | min. | typ. | max. | Unit | | | |
| MN4116 | 16,384×1-Bit Dynamic RAM | $V_{TE} = -0.5 \sim +20V$ $V_{DD} = -1.0 \sim +15V$ $V_{CC} = -1.0 \sim +15V$ $V_{BB} - V_{SS} = 0V$ $T_{opr} = 0 \sim +70^\circ C$ $T_{stg} = -65 \sim +150^\circ C$ Operating Condition $V_{DD} = +12V$ $V_{CC} = +5V$ $V_{BB} = -5V$ $V_{SS} = 0V$ $T_a = 25^\circ C$ | Supply Current | I_{DD1} | | | | | 35 | mA | | |
| | | | | I_{CC2} | | | | | 1.5 | mA | | |
| | | | Total Power Consumption | P_{tot} | Operation | | | | | 462 | mW | |
| | | | | P_{tot} | Standby | | | | | 20 | mW | |
| | | | "H" Level Input Voltage | V_{IH} | | | 2.4 | | | 7.0 | V | |
| | | | "L" Level Input Voltage | V_{IL} | | | -1.0 | | | 0.8 | V | |
| | | | Operating Condition | "H" Level Output Voltage | V_{OH} | $I_O = -5mA$ | | 2.4 | | | | V |
| | | | | "L" Level Output Voltage | V_{OL} | $I_O = 4.2mA$ | | | | 0.4 | V | |
| | | | Access Time | t_{AC} | | | | | | 250 | ns | |
| | | | MN5101 | 256×4-Bit CMOS Static RAM | $V_{TE} = -0.3 \sim V_{DD} + 0.3V$ $P_D = 1W$ $T_{opr} = -10 \sim +80^\circ C$ $T_{stg} = -65 \sim +150^\circ C$ Operating Condition $V_{CC} = +5V$ $V_{SS} = 0V$ $T_a = 25^\circ C$ | Supply Current | I_{CC1} | $V_I = V_{CC}$ Operation | | 5 | 15 | mA |
| | | | | | | | I_{CC2} | $V_I = 2.2V$ Operation | | 15 | 30 | mA |
| I_{CCL} | $CE_2 \leq 0.2V$ Standby | | | | | | | 200 | μA | | | |
| "H" Level Input Voltage | V_{IH} | | | | | | 2.2 | | V_{CC} | V | | |
| "L" Level Input Voltage | V_{IL} | | | | | | -0.3 | | 0.65 | V | | |
| Operating Condition | "H" Level Output Voltage | V_{OH} | | | | $I_{OH} = -1mA$ | | 2.4 | | | V | |
| | "L" Level Output Current | V_{OL} | | | | $I_{OL} = 2mA$ | | | | 0.4 | V | |
| Input Capacitance | C_i | $V_I = 0V$ | | | | | | | 4 | 8 | pF | |
| Output Capacitance | C_o | $V_O = 0V$ | | | | | | | 8 | 12 | pF | |
| Access Time | t_{AC} | | | | | | | | | 800 | ns | |

Block Diagram

MN4116 (Package L-13, 16-Lead Plastic DIL)



MN5101 (Package L-17, 22-Lead Plastic DIL)

