

# MEMORY

## CMOS 4M x 4 BIT

## FAST PAGE MODE DYNAMIC RAM

### MB8116400A -50/-60/-70

#### CMOS 4,194,304 x 4 BIT Fast Page Mode Dynamic RAM

#### ■ DESCRIPTION

The Fujitsu MB8116400A is a fully decoded CMOS Dynamic RAM (DRAM) that contains 16,777,216 memory cells accessible in 4-bit increments. The MB8116400A features a "fast page" mode of operation whereby high-speed random access of up to 1,024-bits of data within the same row can be selected. The MB8116400A DRAM is ideally suited for mainframe, buffers, hand-held computers video imaging equipment, and other memory applications where very low power dissipation and high bandwidth are basic requirements of the design. Since the standby current of the MB8116400A is very small, the device can be used as a non-volatile memory in equipment that uses batteries for primary and/or auxiliary power.

The MB8116400A is fabricated using silicon gate CMOS and Fujitsu's advanced four-layer polysilicon and two-layer aluminum process. This process, coupled with advanced stacked capacitor memory cells, reduces the possibility of soft errors and extends the time interval between memory refreshes. Clock timing requirements for the MB8116400A are not critical and all inputs are TTL compatible.

#### ■ ABSOLUTE MAXIMUM RATINGS (see NOTE)

Parameter	Symbol	Value	Unit
Voltage at any pin relative to VSS	$V_{IN}, V_{OUT}$	-0.5 to +7	V
Voltage of $V_{CC}$ supply relative to VSS	$V_{CC}$	-0.5 to +7	V
Power Dissipation	PD	1.0	W
Short Circuit Output Current	—	50	mA
Operating Temperature	$T_{OPE}$	0 to 70	°C
Storage Temperature	$T_{STG}$	-55 to +125	°C

**NOTE:** Permanent device damage may occur if the above **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.

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.