

Description

The μPD23C1000A is a 131,072-word by 8-bit static ROM fabricated with CMOS silicon-gate technology and designed to operate from a single +5-volt power supply. The device has three-state outputs and fully TTL-compatible inputs and outputs, and is available in 28-pin plastic DIP or miniflat packaging.

Features

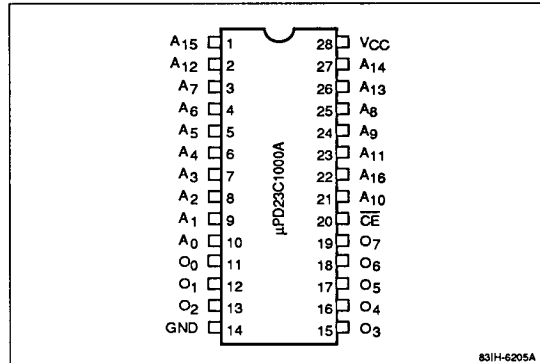
- 131,072-word by 8-bit organization
- TTL-compatible inputs and outputs
- Three-state outputs
- Single +5-volt power supply
- CMOS process technology
- Fully static operation
- Low power dissipation
 - 220 mW (active)
 - 550 μW (standby)

Ordering Information

Part Number	Access Time (max)	Package
μPD23C1000AC	200 ns	28-pin plastic DIP
μPD23C1000AG	200 ns	28-pin plastic miniflat

Pin Configuration

28-Pin Plastic DIP or Miniflat



Pin Identification

Symbol	Function
A ₀ - A ₁₆	Address inputs
O ₀ - O ₇	Data outputs
CE	Chip enable
GND	Ground
V _{CC}	+5-volt power supply

Absolute Maximum Ratings

Supply voltage, V_{CC}	-0.3 to +7.0 V
Input voltage, V_I	-0.3 V to $V_{CC} + 0.3$ V
Output voltage, V_O	-0.3 V to $V_{CC} + 0.3$ V
Operating temperature, T_{OPR}	-10 to +70°C
Storage temperature, T_{STG}	-65 to +150°C

Exposure to Absolute Maximum Ratings for extended periods may affect device reliability; exceeding the ratings could cause permanent damage. The device should be operated within the limits specified under DC and AC Characteristics.

Recommended Operating Conditions

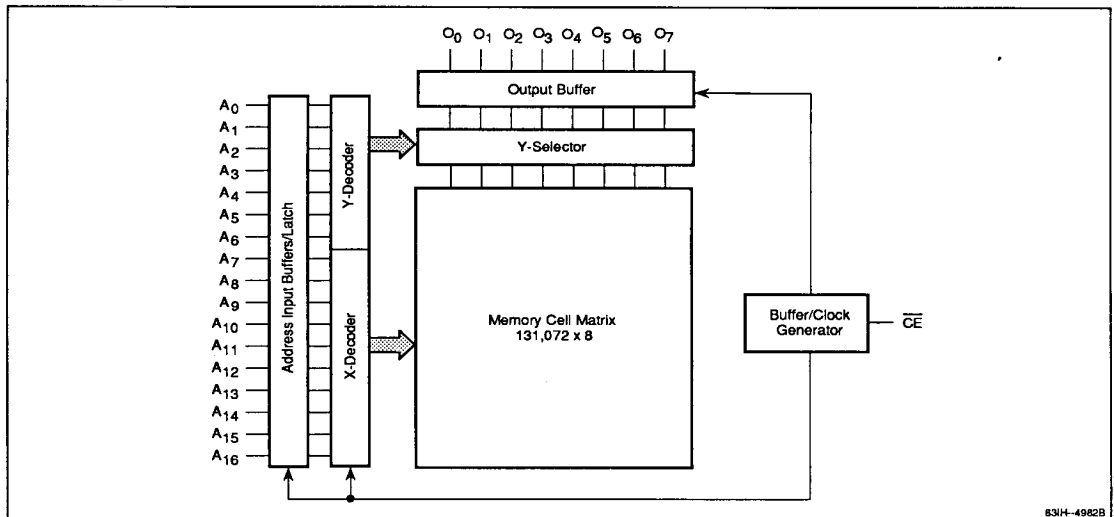
Parameter	Symbol	Min	Typ	Max	Unit
Input voltage, high	V_{IH}	2.2		$V_{CC} + 0.3$	V
Input voltage, low	V_{IL}	-0.3		0.8	V
Supply voltage	V_{CC}	4.5	5.0	5.5	V
Ambient temperature	T_A	-10		70	°C

Capacitance

$T_A = 25^\circ\text{C}; f = 1 \text{ MHz}$

Parameter	Symbol	Min	Typ	Max	Unit
Input capacitance	C_I		15		pF
Output capacitance	C_O		15		pF

Block Diagram



831H-4982B

DC Characteristics

$T_A = -10$ to $+70^\circ\text{C}$; $V_{CC} = +5.0\text{ V} \pm 10\%$

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Output voltage, high	V_{OH}	2.4			V	$I_{OH} = -400\ \mu\text{A}$
Output voltage, low	V_{OL}			0.4	V	$I_{OL} = +2.5\ \text{mA}$
Input leakage current	I_{LI}	-10		10	μA	$V_i = 0\ \text{V}$ to V_{CC}
Output leakage current	I_{LO}	-10		10	μA	$V_O = 0\ \text{V}$ to V_{CC} ; chip deselected
Power supply current	I_{CC1}			40	mA	$\overline{CE} = V_{iL}$
	I_{CC2}			1.5	mA	$\overline{CE} = V_{iH}$ (standby)
	I_{CC3}			100	μA	$\overline{CE} \geq V_{CC} - 0.2$ (standby)

AC Characteristics

$T_A = -10$ to $+70^\circ\text{C}$; $V_{CC} = +5.0\text{ V} \pm 10\%$ (Note 1)

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Address access time	t_{ACC}			200	ns	
Chip enable access time	t_{CE}			200	ns	
Output hold time	t_{OH}	0			ns	
Output disable time	t_{DF}	0		60	ns	

Notes:

- (1) Input voltage rise and fall times = 20 ns; Input and output timing reference levels = 0.8 and 2.0 V; output load = 1 TTL + 100 pF.

Timing Waveform

