μPD23C1010A
131,072 x 8-Bit
Mask-Programmable CMOS ROM

Description

The μPD23C1010A is a 1,048,576-bit ROM fabricated with CMOS silicon-gate technology. The device is static in operation and organized as 131,072 words by 8 bits. It has three-state outputs, fully TTL-compatible inputs and outputs, and is available in a 28-pin plastic DIP .

Features

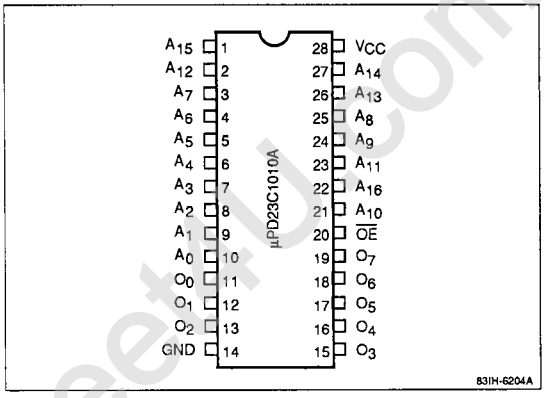
- 131,072 words by 8-bit organization
- Fast access time
- TTL-compatible inputs and outputs
- Three-state outputs
- Single +5-volt power supply
- CMOS technology
- Fully static operation
- Low power dissipation of 220 mW

Ordering Information

Part Number	Address Access Time (max)	Output Enable Access Time (max)	Package
μPD23C1010AC	200 ns	100 ns	28-pin plastic DIP

Pin Configuration

28-Pin Plastic DIP



Pin Identification

Symbol	Function
A_0 - A_{16}	Address inputs
O_0 - O_7	Data outputs
$\overline{OE}$	Output 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

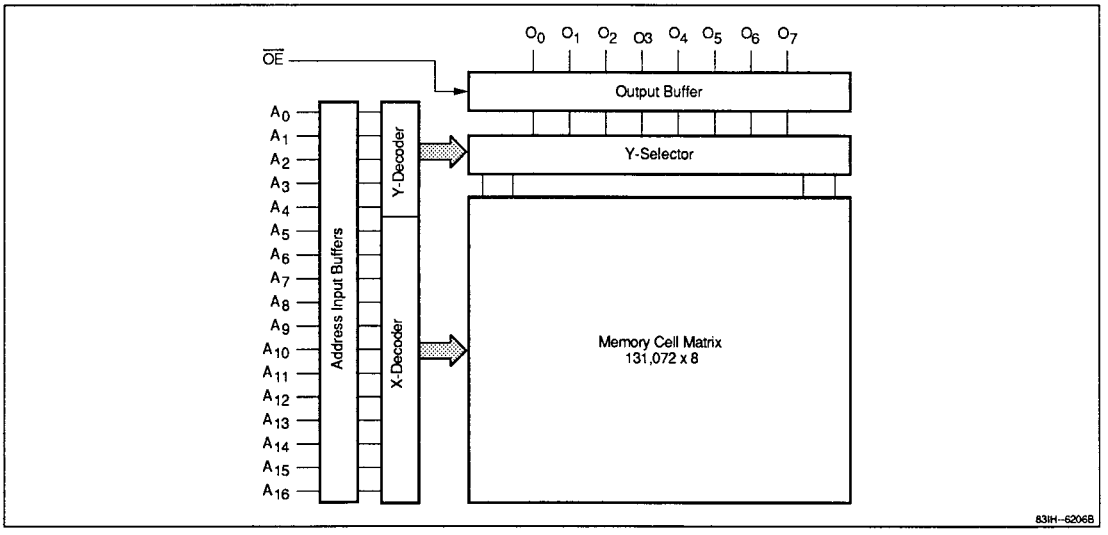
Parameter	Symbol	Min	Typ	Max	Unit
Input voltage, high	V_{IH}	2.2		V_{CC} + 0.3	V
Input voltage, low	V_{IL}	−0.3		0.8	V
Supply voltage	V_{CC}	4.5	5.0	5.5	V
Ambient temperature	T_A	−10		70	°C

Capacitance

T_A = 25°C; f = 1 MHz

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

Block Diagram



DC Characteristics

T_A = −10 to +70°C; V_{CC} = +5.0 V ±10%

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Output voltage, high	V_{OH}	2.4			V	I_{OH} = −400 μA
Output voltage, low	V_{OL}			0.4	V	I_{OL} = +2.5 mA
Input leakage current, high	I_{LIH}			10	μA	$V_I = V_{CC}$
Input leakage current, low	I_{LIL}			−10	μA	V_I = 0 V
Output leakage current, high	I_{LOH}			10	μA	$V_O = V_{CC}$; output disabled
Output leakage current, low	I_{LOL}			−10	μA	V_O = 0 V; output disabled
Power supply current	I_{CC1}			40	mA	

AC Characteristics

T_A = −10 to +70°C; V_{CC} = +5.0 V ±10%

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Address access time	t_{ACC}			200	ns	
Output enable access time	t_{OE}			100	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.

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Timing Waveform