PRELIMINARY

RICOH

RICOH CORP/ ELECTRONIC

EK-042-8911

RP231028

NMOS IMbit MASK ROM

(131072 word×8 bit)

The RP231028 is static NMOS read only memory organized as 131072 words by 8 bits and operates from a single +5V supply.

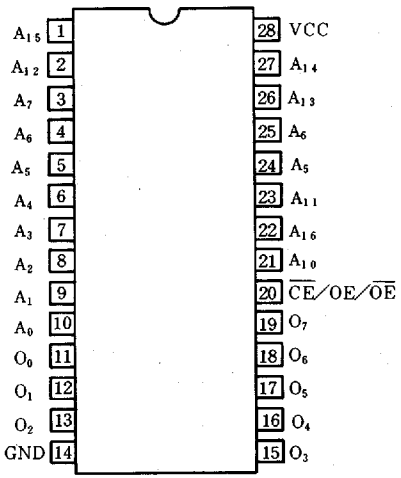
The RP231028 has a power-down mode.

When Chip Enable ($\overline{CE}$) goes High Level, the supply current is reduced from 50 mA (MAX.) to 30 mA (MAX.).

Pin 20 can be selected as either Chip Enable or Output Enable.

According to your order, logic of OE can be selected as either Active high or Active low.

■ PIN CONFIGURATION (TOP VIEW)



■ FEATURES

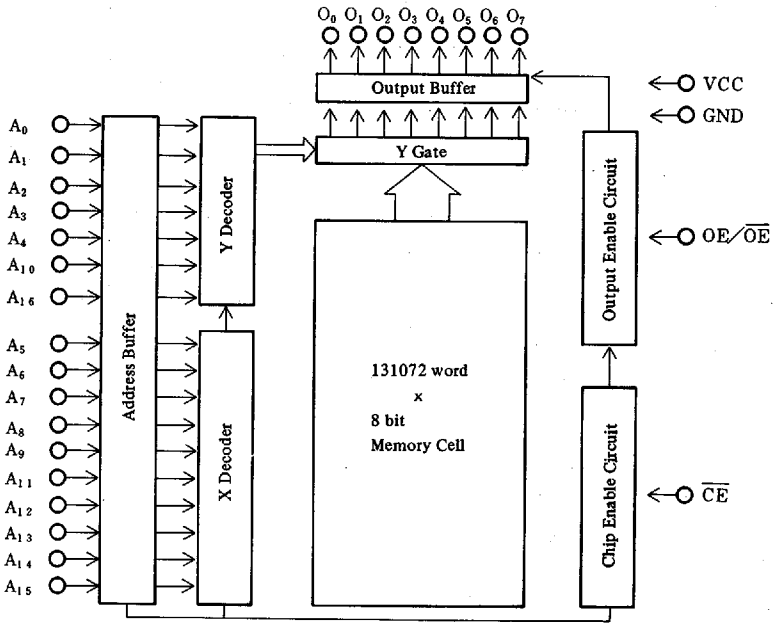
1. Organization : 131072 words × 8 bits
2. Access Time : 200ns (MAX.)
3. TTL compatible
4. Single 5V power supply
5. Package : 28 pin plastic DIP

■ PIN DESCRIPTION

Pin Name	Function
$A_0 \sim A_{16}$	Address Input
$O_0 \sim O_7$	Data Output
$\overline{CE}$	Chip Enable Input
$\overline{OE}$	Output Enable Input
Vcc	Power Supply (+5V)
GND	Ground

BLOCK DIAGRAM

T-46-13-15



■ ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Condition	Limit	Unit
Vcc	Supply Voltage	With respect to GND	−0.3 ~ 7	V
VI	Input Voltage		−0.3 ~ Vcc + 0.3	V
VO	Output Voltage		−0.3 ~ Vcc + 0.3	V
Pd	Power Consumption	Ta = 25°C	350	mW
Topr	Operating Temperature		−10 ~ 80	°C
Tstg	Storage Temperature		−40 ~ 125	°C

■ RECOMMENDED OPERATING CONDITION (Ta = 0 ~ 70°C)

Symbol	Parameter	MIN.	TYP.	MAX.	Unit
Vcc	Supply Voltage	4.5	5.0	5.5	V
VIH	"H" Input Voltage	2.0		Vcc	V
VIL	"L" Input Voltage	−0.3		0.8	V

■ ELECTRICAL CHARACTERISTICS

- **DC Electrical Characteristics (Ta = 0 ~ 70°C, Vcc = 5V ± 10%)**

Symbol	Parameter	Condition	MIN.	TYP.	MAX.	Unit
Icc 1	Supply Current (Standby)	CE = Vcc			20	mA
Icc 2	Supply Current (Operation)	Io = 0 mA Output Open			50	mA
VOH	"H" Output Voltage	IOH = −400μA	2.4			V
VOL	"L" Output Voltage	IOL = 3.2 mA			0.4	V
VIH	"H" Input Voltage		2.0		VCC	V
VIL	"L" Input Voltage		−0.3		0.8	V
ILI	Input Leakage Current	VI = 0V ~ Vcc	−10		10	μA
ILO	Output Leakage Current	VO = 0V ~ Vcc Chip Deselected	−10		10	μA

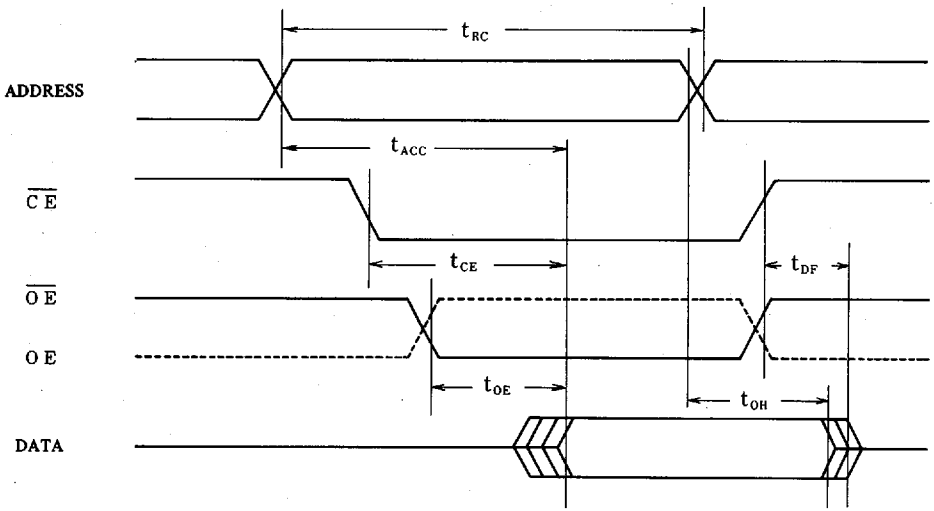
- **AC Electrical Characteristics (Ta = 0 ~ 70°C, Vcc = 5V ± 10%)**

Symbol	Parameter	MIN.	TYP.	MAX.	Unit
t_{RC}	Read Cycle Time	200			ns
t_{ACC}	Address Access Time			200	ns
t_{CE}	Chip Enable Access Time			200	ns
t_{OE}	Output Enable Access Time			80	ns
t_{DF}	Output Floating Delay Time	0		80	ns
t_{OH}	Output Hold Time	0			ns

Note) Test Condition

Input Pulse Voltage	:	VIL = 0.6v, VIH = 2.4v
Input Pulse Rise/Fall Time	:	10ns
Timing Measuring Voltage	:	Input VIL = 0.8v, VIH = 2.2v
		Output VOL = 0.8v, VOH = 2.0v
Output Load	:	1TTL + 100pF (Including jig capacitance)

- **Timing Chart**



- **Capacitance**

Symbol	Parameter	Condition	MIN.	TYP.	MAX.	Unit
Ci	Input Capacitance	f = 1 MHz			8	pF
Co	Output Capacitance	f = 1 MHz			12	pF

■ PACKAGE DIMENSION (Unit: mm)