

# RICOH

T-46-13-15 EK-060-9111

## CMOS 256kbit MASK ROM

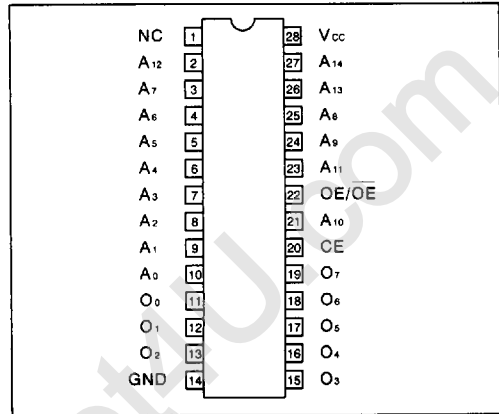
(32,768 word × 8 bit)

### RP/RS53256E

#### PIN CONFIGURATION (TOP VIEW)

RP/RS53256E is a CMOS Read Only Memory organized as 32768 words × 8 bits and operates from a single 5V supply. The supply current is reduced from 50 mA (Max.) to 100 μA (Max.) by the power down function.

According to your order, the logic of OE signal can be selected as either ACTIVE HIGH or ACTIVE LOW.



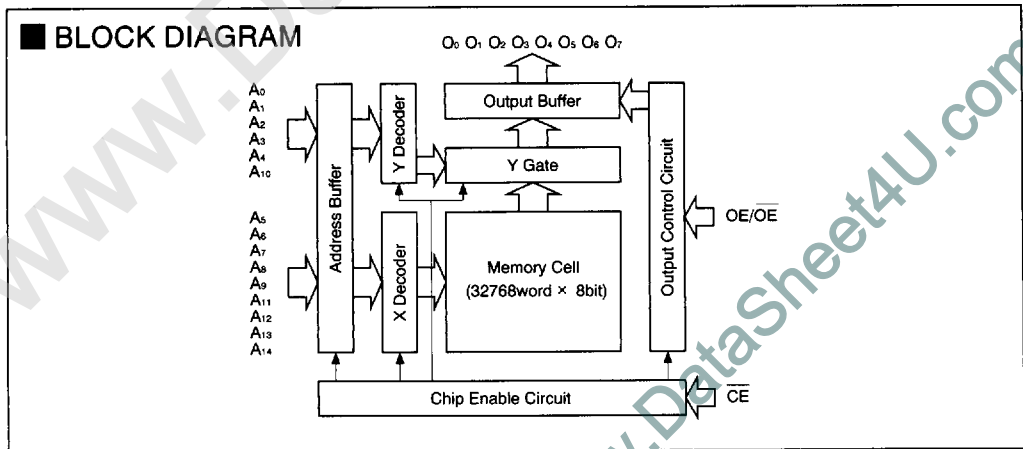
#### FEATURES

1. Organization: 32768 words × 8 bits
2. Access Time: 200 ns
3. TTL Compatible Input/Output
4. Single 5V Power Supply
5. Package RP53256E . . . 28pin DIP  
RS53256E . . . 28pin SOP

#### PIN DESCRIPTION

Pin Name	Function
A <sub>0</sub> ~ A <sub>14</sub>	Address Input
O <sub>0</sub> ~ O <sub>7</sub>	Data Output
OE/ $\overline{OE}$	Output Enable Input
$\overline{CE}$	Chip Enable Input
V <sub>cc</sub>	Power Supply (+5V)
GND	Ground

#### BLOCK DIAGRAM



RICOH

## ■ ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Condition	Limit	Unit
V <sub>CC</sub>	Supply Voltage	With respect to GND	- 0.3 ~ 7	V
V <sub>I</sub>	Input Voltage		- 0.3 ~ V <sub>CC</sub> + 0.3	V
V <sub>O</sub>	Output Voltage		- 0.3 ~ V <sub>CC</sub> + 0.3	V
P <sub>d</sub>	Power Consumption	T <sub>a</sub> = 25°C	350	mW
T <sub>opr</sub>	Operating Temperature		0 ~ 70	°C
T <sub>stg</sub>	Storage Temperature		- 40 ~ 125	°C

## ■ RECOMMENDED OPERATING CONDITION (T<sub>a</sub>=0~70°C)

Symbol	Parameter	Min.	Typ.	Max.	Unit
V <sub>CC</sub>	Supply Voltage	4.5	5.0	5.5	V

## ■ ELECTRICAL CHARACTERISTICS

### ● DC ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=0~70°C, V<sub>CC</sub>=5V ±10%)

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
I <sub>CC1</sub>	Supply Current (Operation)	t <sub>RC</sub> = 200 ns			50	mA
I <sub>SB1</sub>	Supply Current (Stand by)	$\overline{CE} = V_{IH}$			2	mA
I <sub>SB2</sub>		$\overline{CE} = V_{CC} - 0.2V$			100	μA
V <sub>OH</sub>	" H " Output Voltage	I <sub>OH</sub> = - 0.4 mA	2.4			V
V <sub>OL</sub>	" L " Output Voltage	I <sub>OL</sub> = 1.6 mA			0.4	V
V <sub>IH</sub>	" H " Input Voltage		2.2		V <sub>CC</sub>	V
V <sub>IL</sub>	" L " Input Voltage		- 0.3		0.8	V
I <sub>LI</sub>	Input Lenkage Current	V <sub>I</sub> = 0V ~ V <sub>CC</sub>	- 10		10	μA
I <sub>LO</sub>	Output Leakage Current	V <sub>O</sub> = 0V ~ V <sub>CC</sub> Chip Deselected	- 10		10	μA

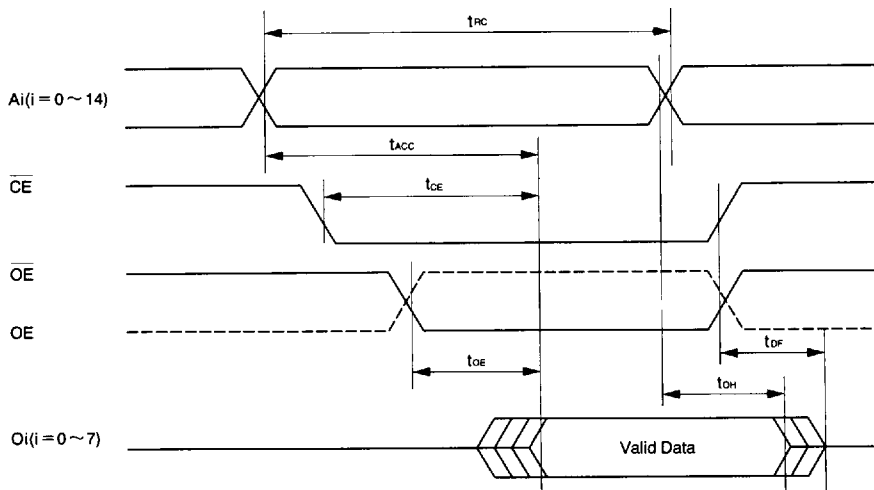
The supply current is measured at output open state.

● AC ELECTRICAL CHARACTERISTICS (Ta=0~70°C, Vcc=5V ±10%)

Symbol	Parameter	Min.	Typ.	Max.	Unit
t <sub>RC</sub>	Read Cycle Time	200			ns
t <sub>ACC</sub>	Address Access Time			200	ns
t <sub>CE</sub>	Chip Enable Access Time			200	ns
t <sub>OE</sub>	Output Enable Access Time			80	ns
t <sub>DF</sub>	Output Floating Delay Time	0		80	ns
t <sub>OH</sub>	Output Hold Time	0			ns

Input Voltage : V<sub>IL</sub> = 0.6V, V<sub>IH</sub> = 2.4V, tr, tf = 10 ns  
 Output Load : 1 TTL + 100 pF  
 Measuring Voltage : V<sub>IL</sub> = 0.8V, V<sub>IH</sub> = 2.2V, V<sub>OL</sub> = 0.8V, V<sub>OH</sub> = 2.2V

● TIMING CHART

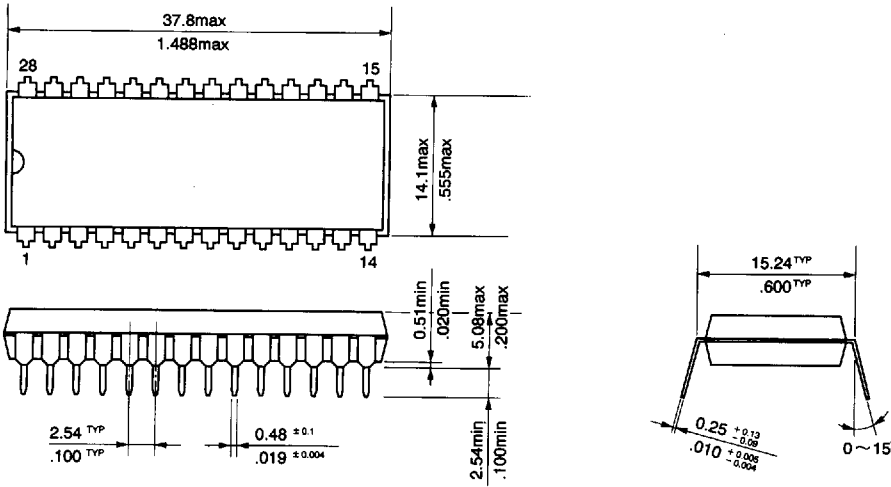


● CAPACITANCE

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
C <sub>i</sub>	Input Capacitance	f = 1MHz			10	pF
C <sub>o</sub>	Output Capacitance				12	pF

■ PACKAGE DIMENSION (Unit : mm/inch)

● 28PIN DIP (RP53256E)



● 28PIN SOP (RS53256E)

