OKI semiconductor

MSM2916RS

16,384-BITS STATIC 16 K MASK ROM

GENERAL DESCRIPTION

The MSM2916RS is a 16,384-bits static, N channel MOS Read only memory organized as 2,048 words by 8 bits.
The three-state outputs and TTL inputs/outputs level allow for direct interface with common system bus structures.
The MSM2916RS single +5 V power supply and 250 ns access time are both ideal for usage with high performance microcomputers.
The three chip selects CS_1, CS_2 and CS_3 may be defined by customer and fixed during the masking process.
ROM DATA Accepting flow from customer.
Preparing next two in customer's side
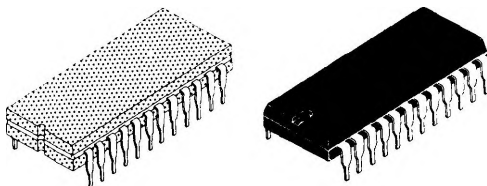1)   Two master devices, programming finished 16K EP·ROM.
2)   Chip select CS_1, CS_2 and CS_3 logic table.
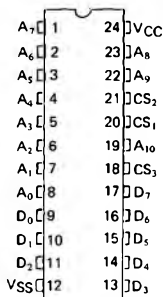After received customer's ROM DATA, print out ROM DATA in Hex CODE and copy finished 16K EP·ROM send to customer.
Verified ROM DATA in customer's side, OKI send engineering samples mask programed customer's ROM DATA.

FEATURES

- Organization . . . . . . 2048 W x 8 bit
- Static Operation . . . . No clocks required
- Supply Voltage . . . . . 5 V ±10%
- Access Time . . . . . . 250 ns Max.
- Power Dissipation . . . 550 mW Max.
- Input Voltage . . . . . . V_{IH} = 2.0 V Min.
  V_{IL} = 0.8 V Max.
- Output Voltage . . . . . V_{OH} = 2.4 V Min.,
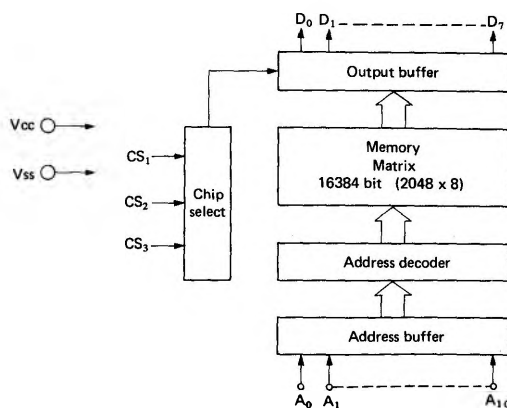 V_{OL} = 0.45 V Max.
- Package . . . . 24 PIN DIP

FUNCTIONAL BLOCK DIAGRAM

PIN CONFIGURATION

A_7	1	24	V_{CC}
A_6	2	23	A_8
A_5	3	22	A_9
A_4	4	21	CS_2
A_3	5	20	CS_1
A_2	6	19	A_{10}
A_1	7	18	CS_3
A_0	8	17	D_7
D_0	9	16	D_6
D_1	10	15	D_5
D_2	11	14	D_4
V_{SS}	12	13	D_3

Note: CS_1, CS_2 and CS_3 are programmable
CHIP SELECTS

ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	Vcc	−0.5 to +7.0	V
Input Voltage	V_I	−0.5 to +7.0	V
Output Voltage	V_O	−0.5 to +7.0	V
Operating Temperature	Topr	0 to +70	°C
Storage Temperature	Tstg	−55 to +150	°C

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	4.5	5.0	5.5	V
"H" Input Voltage	V_{IH}	2.0		Vcc	V
"L" Input Voltage	V_{IL}	−0.5		0.8	V

DC CHARACTERISTICS

(Vcc = 5 V ± 10%, Vss = 0 V, Ta = 0°C to +70°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
"H" Input Voltage	V_{IH}		2.0		Vcc	V
"L" Input Voltage	V_{IL}		−0.5		0.8	V
"H" Output Voltage	V_{OH}	I_{OH} = −100μA	2.4			V
"L" Output Voltage	V_{OL}	I_{OL} = 1.6 mA			0.4	V
Input Leak Current	I_{LI}	V_I = 0 ~ Vcc			10	μA
Output Leak Current	I_{LO}	V_O = 0 ~ Vcc			10	μA
Power Supply Current	Icc	Vcc = 5.5V			100	mA
Input Capacity	C_i	V_I = 0V, V_O = 0V			6	pF
Output Capacity	C_o	f = 1 MHz Ta = 25°C			12	pF

AC OPERATING CHARACTERISTICS

(Vcc = 5 V ± 10%, Vss = 0 V, Ta = 0°C to +70°C)

Parameter	Symbol	Min.	Max.	Unit
Read Cycle time	t_{CYC}	250		ns
Address Access time	t_{ACC}		250	ns
Chip Select Access time	t_{CS}		100	ns
Output Disable Delay time	t_{DF}		100	ns

$V_{IH} = 2.0V, V_{IL} = 0.8V, V_{OH} = 2.0V, V_{OL} = 0.8V$

Output Load = 1 TTL GATE + 100PF

ADDRESS — 1.5V

CHIP SELECT

t_{ACC}

1.5V — t_{CS}

t_{DF}

Output — HIGH Z