

82S2708 8K-Bit TTL Bipolar PROM

Product Specification

Military Bipolar Memory Products

DESCRIPTION

The 82S2708 is field-programmable, which means that custom patterns are immediately available by following the Signetics Generic I fusing procedure. The 82S2708 is supplied with all outputs at logical Low. Outputs are programmed to a logic High level at any specified address by fusing the Ni-Cr link matrix.

This device includes on-chip decoding and 1 chip enable inputs for ease of memory expansion. It features 3-State outputs for optimization of word expansion in bused organizations.

Ordering information can be found on the following page.

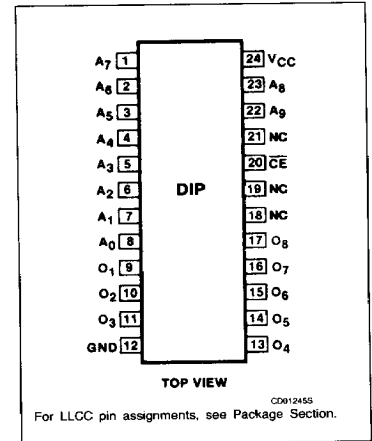
FEATURES

- Address access time: 90ns max
- Input loading: $-150\mu\text{A}$ max
- On-chip address decoding
- Outputs: 3-State
- No separate fusing pins
- Unprogrammed outputs are Low level
- Fully TTL compatible

APPLICATIONS

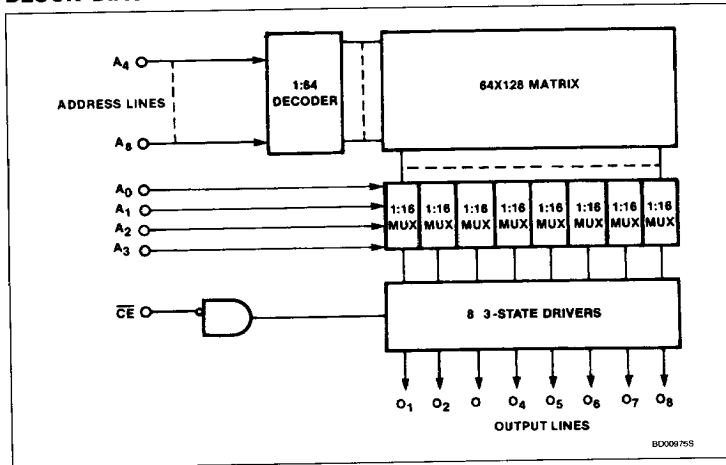
- Sequential controllers
- Microprogramming
- Hardwired algorithms
- Control store
- Random logic
- Code conversion

PIN CONFIGURATION



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BLOCK DIAGRAM



8K-Bit TTL Bipolar PROM (1024 × 8)

82S2708

ORDERING INFORMATION

DESCRIPTION	ORDER CODE
24-pin Ceramic Dual-In-Line 600mil-wide	82S2708/BJA
Ceramic Flat Pack	82S2708/BKA

ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER	RATING	UNIT
V_{CC}	Supply voltage	+7	V_{DC}
V_I	Input voltage	+5.5	V_{DC}
V_O	Output voltage Off-state	+5.5	V_{DC}
T_A T_{STG}	Temperature range Operating Storage	-55 to +125 -65 to +150	°C

DC ELECTRICAL CHARACTERISTICS $-55^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$, $4.5\text{V} \leq V_{CC} \leq 5.5\text{V}$

SYMBOL	PARAMETER	TEST CONDITIONS ^{1, 2}	LIMITS			UNIT
			Min	Typ ⁵	Max	
Input voltage²						
V_{IL} V_{IH} V_{IK}	Low High Clamp	$V_{CC} = 4.5\text{V}$, $I_I = -18\text{mA}$	2.0	-0.8	0.8 -1.2	V
Output voltage²						
V_{OL} V_{OH}	Low High	$V_{CC} = 4.5\text{V}$ $\overline{CE} = \text{Low}$ $I_O = 9.6\text{mA}$ $I_O = -2\text{mA}$	2.4		0.5	V
Input current¹						
I_{IL} I_{IH}	Low High	$V_{CC} = 5.5\text{V}$ $V_I = 0.45\text{V}$ $V_I = 5.5\text{V}$			-150 50	μA
Output current¹						
I_{OZ} I_{OS}	Hi-Z State Short circuit	$V_{CC} = 5.5\text{V}$ $\overline{CE} = \text{High}$, $V_O = 5.5\text{V}$ $\overline{CE} = \text{High}$, $V_O = 0.5\text{V}$ $\overline{CE} = \text{Low}$, $V_O = 0\text{V}$ High stored	-15		60 -60 -85	μA mA
Supply current						
I_{CC}		$\overline{CE} = \text{High}$ $V_{CC} = 5.5\text{V}$		125	185	mA
Capacitance⁶						
C_{IN} C_{OUT}	Input Output	$\overline{CE}_{1,2} = \text{High}$, $V_{CC} = 5.0\text{V}$ $V_I = 2.0\text{V}$ $V_O = 2.0\text{V}$		5 8		pF

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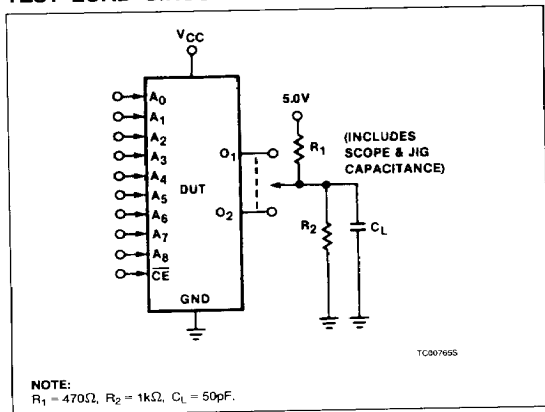
AC ELECTRICAL CHARACTERISTICS -55°C ≤ T_A ≤ +125°C, 4.5V ≤ V_{CC} ≤ 5.5V

SYMBOL	PARAMETER	TO	FROM	LIMITS			UNIT
				Min	Typ ⁵	Max	
t _{AA}	Access time ⁴	Output	Address		50	90	ns
t _{CE}		Output	Chip enable		20	50	
t _{CD}	Disable time	Output	Chip disable		20	50	ns

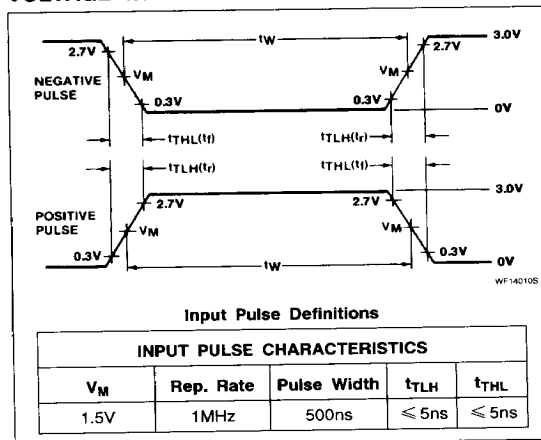
NOTES:

1. Positive current is defined as into the terminal referenced.
2. All voltages with respect to network ground.
3. Duration of short circuit should not exceed 1 second.
4. Tested at an address cycle time of 1μs.
5. Typical values are at V_{CC} = 5V, T_A = 25°C.
6. Guaranteed but not tested.

TEST LOAD CIRCUIT



VOLTAGE WAVEFORMS



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TIMING DIAGRAMS

