

82S147 82S147A 4K-Bit TTL Bipolar PROM

Military Bipolar Memory Products

Product Specification

DESCRIPTION

The 82S147 and 82S147A are field-programmable, which means that custom patterns are immediately available by following the Signetics Generic I fusing procedure. The standard devices are 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.

The 82S147 and 82S147A include on-chip decoding and one chip enable input for ease of memory expansion, and feature 3-State outputs for optimization of word expansion in bused organizations.

FEATURES

- Address access time: 75ns max
- Input loading: -150 μ A max
- One chip enable input
- On-chip address decoding
- No separate fusing pins
- Fully TTL compatible
- Outputs: 3-State
- Unprogrammed outputs are Low level

APPLICATIONS

- Prototyping/volume production
- Sequential controllers
- Microprogramming
- Hardwired algorithms
- Control store
- Random logic
- Code conversion

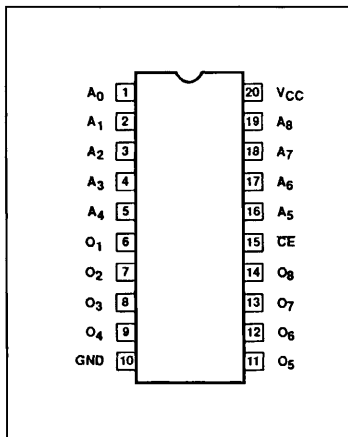
ORDERING INFORMATION

DESCRIPTION	ORDER CODE
20-pin Ceramic	82S147/BRA
Dual-In-Line 300mil-wide	82S147A/BRA

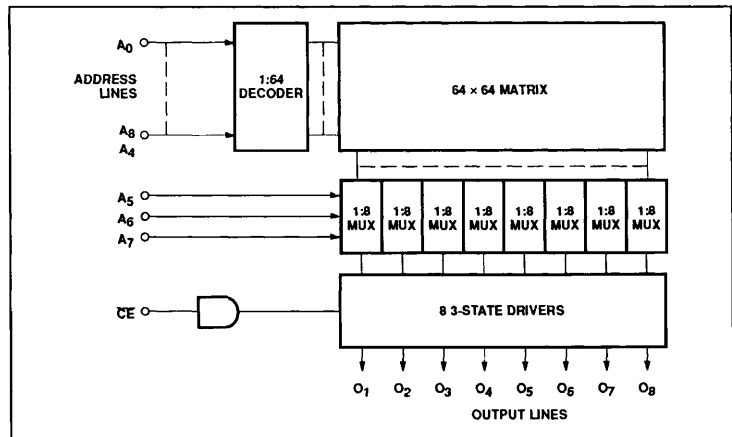
ABSOLUTE MAXIMUM RATINGS

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	Operating temperature range	-55 to +125	°C
T _{STG}	Storage temperature range	-65 to +150	°C

PIN CONFIGURATION



BLOCK DIAGRAM



4K-Bit TTL Bipolar PROM (512 × 8)

82S147, 82S147A

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

SYMBOL	PARAMETER	TEST CONDITIONS ^{1,2}	LIMITS			UNIT			
			Min	Typ ⁵	Max				
Input voltage									
V _{IL}	Low	V _{CC} = 4.5V, I _I = -18mA	2.0		0.8	V			
V _{IH}	High								
V _{IK}	Clamp								
Output voltage									
V _{OL}	Low	V _{CC} = 4.5V, CE = Low I _O = 9.6mA	2.4		0.5	V			
V _{OH}	High						I _O = -2mA		
Input current									
I _{IL}	Low	V _{CC} = 5.5V V _I = 0.45V			-150	μA			
I _{IH}	High						V _I = 5.5V		
Output current									
I _{OZ}	Hi-Z state	V _{CC} = 5.5V CE = High, V _O = 5.5V CE = High, V _O = 0.5V V _{CC} = 5.5V, CE = Low, V _O = 0V			40	μA			
I _{OS}	Short circuit ³						-15	-85	mA
Supply current									
I _{CC}		CE = High, V _{CC} = 5.5V		125	160	mA			
Capacitance⁶									
C _{IN}	Input	CE = High, V _{CC} = 5.0V V _I = 2.0V			5	10	pF		
C _{OUT}	Output							V _O = 2.0V	8

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

SYMBOL	PARAMETER	TO	FROM	82S147			82S147A			UNIT
				Min	Typ ⁵	Max	Min	Typ ⁵	Max	
t _{AA}	Access time ⁴	Output	Address		45	75		45	55	ns
t _{CE}	Access time ⁴	Output	Chip Enable		20	45		20	30	ns
t _{CD}	Disable time	Output	Chip Disable		20	45		20	30	ns

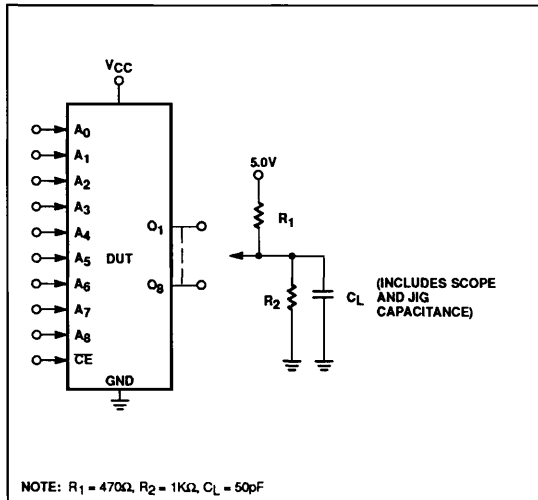
NOTES:

1. All voltage values are with respect to network ground terminal.
2. Positive current is defined as into the terminal referenced.
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.

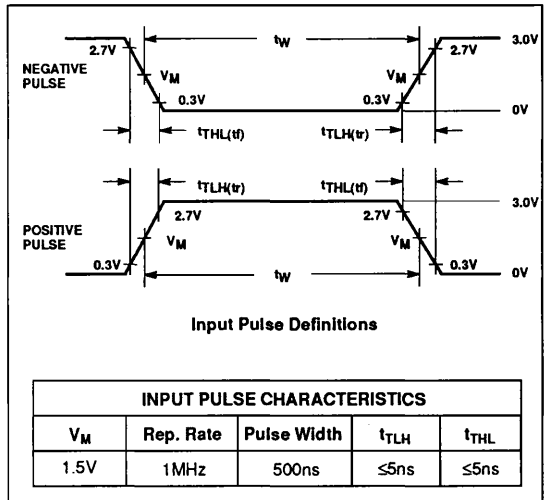
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TEST LOAD CIRCUITS



VOLTAGE WAVEFORMS



TIMING DIAGRAMS

