

2048-BIT BIPOLAR RAM (256 × 8)

8X350 (T.S.)

www.DataSheet4U.com

DESCRIPTION

The 8X350 bipolar RAM is designed principally as a working storage element in an 8X300 based system. Internal circuitry is provided for direct use in 8X300 applications. When used with the 8X300, the RAM address and data buses are tied together and connected to the IV bus of the system.

The data inputs and outputs share a common I/O bus with 3-state outputs.

The 8X350 is available in commercial and military temperature ranges. For the commercial temperature range (0°C to +75°C) specify N8X350-F, and for the military temperature range (-55°C to +125°C) specify S8X350-F.

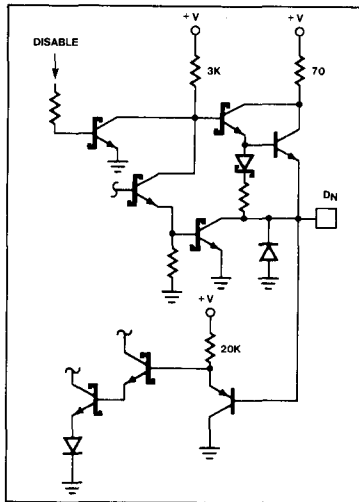
FEATURES

- On-chip address latches
- 3-state outputs
- Schottky clamped TTL
- Internal control logic for 8X300 system
- Directly interfaces with the 8X300 bipolar microprocessor with no external logic
- May be used on left or right bank

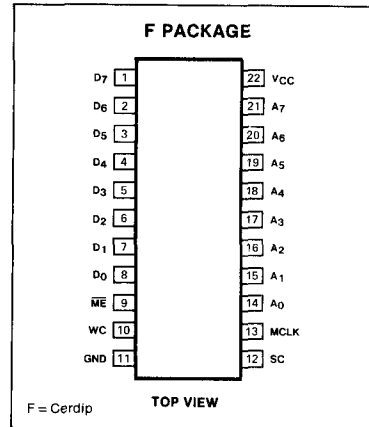
APPLICATIONS

- 8X300 or 8X305 working storage

TYPICAL I/O STRUCTURE



PIN CONFIGURATION



ABSOLUTE MAXIMUM RATINGS

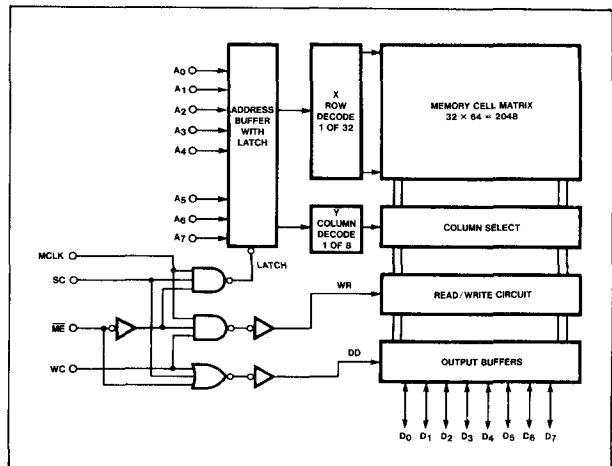
PARAMETER	RATING	UNIT
V _{CC}	+7	Vdc
V _{IN}	+5.5	Vdc
V _{OH}	+5.5	Vdc
V _O	+5.5	Vdc
T _A	Operating Commercial Military	°C
T _{STG}	Storage	°C

TRUTH TABLE

Note X = Don't care

MODE	ME	SC	WC	MCLK	BUSSED DATA/ADDRESS LINES
Hold address					
Disable data out	1	X	X	X	High Z data out
Input new address	0	1	0	1	Address High Z
Hold address					
Disable data out	0	1	0	0	High Z data out
Hold address					
Write data	0	0	1	1	Data in
Hold address					
Disable data out	0	0	1	0	High Z data out
Hold address					
Read data	0	0	0	X	Data out
Undefined state ¹²	0	1	1	1	—
Hold address ¹²					
Disable data out	0	1	1	0	High Z data out

BLOCK DIAGRAM



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DC ELECTRICAL CHARACTERISTICS² N8X350: 0°C ≤ T_A ≤ +75°C, 4.75V ≤ V_{CC} ≤ 5.25V
 S8X350: -55°C ≤ T_A ≤ +125°C, 4.75V ≤ V_{CC} ≤ 5.25V

PARAMETER	TEST CONDITIONS	N8X350			S8X350			UNIT
		Min	Typ	Max	Min	Typ	Max	
V _{IL} V _{IH} V _{IC}	Input voltage Low ¹ High ¹ Clamp ^{1,3}			.85			.80	V
		2.0		-1.2	2.0		-1.2	
V _{OL} V _{OH}	Output voltage Low ^{1,4} High ^{1,5}			0.5			.5	V
		2.4			2.4			
I _{IL} I _{IH}	Input current Low High			-100 25			-150 50	μA
I _{O(OFF)} I _{OS}	Output current High Z state Short circuit ^{3,6}			40 -100			60 -100	μA μA
		-20		-70	-15		-85	mA
I _{CC}	V _{CC} supply current ⁷			185			200	mA
C _{IN} C _{OUT}	Capacitance Input Output						5 8	pF
							5 8	

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AC ELECTRICAL CHARACTERISTICS^{2,9} N8X350: 0°C ≤ T_A ≤ +75°C, 4.75V ≤ V_{CC} ≤ 5.25V R₁ = 470Ω, R₂ = 1kΩ, C_L = 30pF
 S8X350: -55°C ≤ T_A ≤ +125°C, 4.75V ≤ V_{CC} ≤ 5.25V

PARAMETER	TO	FROM	N8X350			S8X350			UNIT
			Min	Typ	Max	Min	Typ	Max	
TE ₁ TE ₂	Output Output	SC- ME-			35 35			40 40	ns
TD ₁ TD ₂	Output Output	SC+ ME+			35 35			40 40	ns
T _W	Pulse width Master clock ⁶		40			50			ns
T _{SA} T _{HA} T _{SD} T _{HD} T _{S3} T _{H3} T _{S1} T _{H2} T _{S2} T _{H1} T _{H4}	Setup time Hold time Setup time Hold time Setup time Hold time Setup time Hold time Setup time Hold time Setup time Hold time	MCLK- Address MCLK- Data in MCLK- Data in MCLK- ME- ME+ MCLK- ME- ME- MCLK- SC-, WC- SC- WC-	Address MCLK- Data in MCLK- ME- MCLK- ME- MCLK- SC-, WC- MCLK- MCLK-	30 5 35 5 5 5 30 5 5 0 5 5 5		40 10 45 10 50 5 40 5 5 5 5		ns	

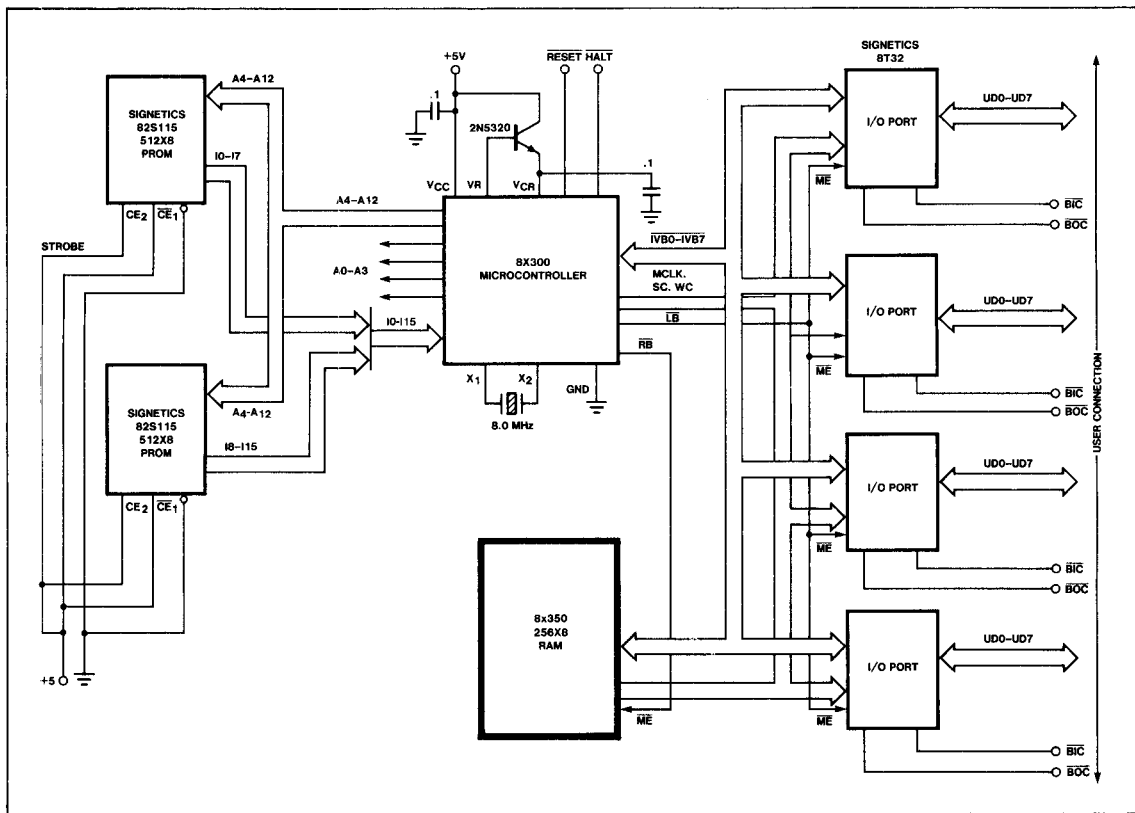
Notes on following page.

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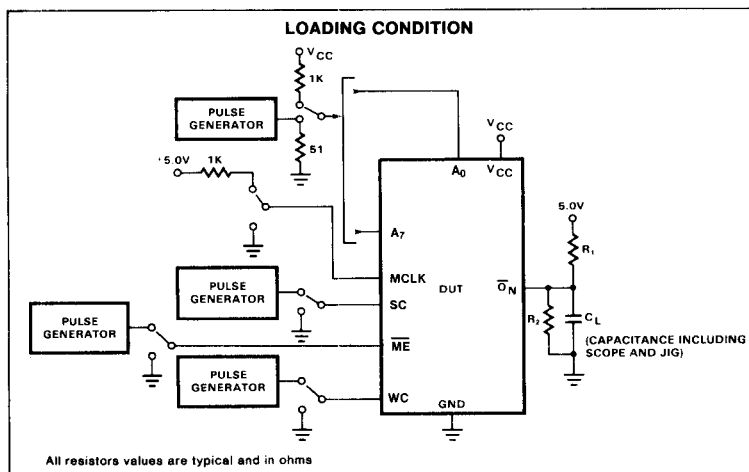
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TYPICAL 8X350 APPLICATION



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TEST LOAD CIRCUIT



Signetics

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