

5481 / 7481 16-Bit Read/Write Memory

	Schottky TTL				High-Speed TTL				Low-Power Schottky TTL				Standard TTL				Low-Power TTL				
	Device Type		Package		Device Type		Package		Device Type		Package		Device Type		Package		Device Type		Package		
	C	P	M	CF	C	P	M	CF	C	P	M	CF	C	P	M	CF	C	P	M	CF	
T. I.													SN5481A	J(1)			W(1)				
FAIRCHILD													SN7481A	J(1)N(3)							
MOTOROLA													FM93407								
N. S. C.																					
PHILIPS																					
SIGNETICS																					
SIEMENS																					
FUJITSU																					
HITACHI																					
mitsubishi																					
NEC																					
TOSHIBA																					

Electrical Characteristics SN5481A / SN7481A

absolute maximum ratings over operating free-air temperature range

Supply voltage, V _{CC}	7V	Operating free-air temperature range	SN54*	-55°C to 125°C
Input voltage	5.5V	temperature range	SN74*	0°C to 70°C
Intermet voltage (see Note)	5.5V	Storage temperature range		-65°C to 150°C
High-level output voltage	5.5V			

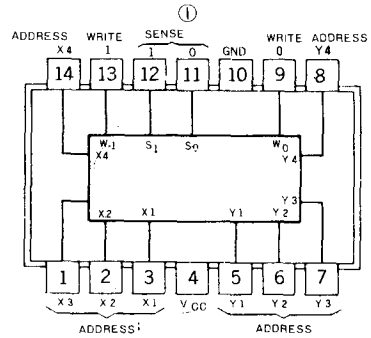
recommended operating conditions

	SN5481A			SN7481A			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, V _{CC}	4.5	5	5.5	4.75	5	5.25	V
High-level output voltage, V _{OH}			5.5			5.5	V
Low-level output current, I _{OL}			20			40	mA
Width of write pulse, t _{w(write)}		20			20		ns
Address input setup time, t _{setup}		0			0		ns
Operating free-air temperature, T _A		-55	125		0	70	°C

electrical characteristics over recommended operating free-air temperature range

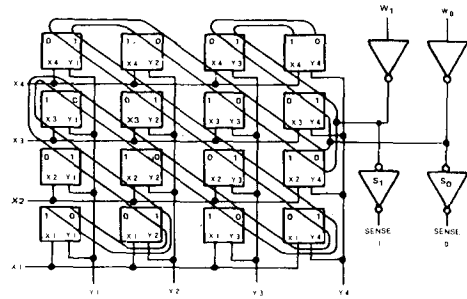
PARAMETER #	TEST CONDITIONS †	MIN	TYP ‡	MAX	UNIT
V _{IH}	High-level voltage at any input		2		V
V _{IL}	Low-level voltage at address inputs to prevent writing to prevent sensing			0.8	V
V _{IL}	Low-level voltage at write input			1	V
V _I	input clamp voltage	V _{CC} = MIN, I _I = -12mA		-1.5	V
I _{OH}	High-level output current	V _{CC} = MIN, V _{OH} = 5.5V		250	µA
I _{OL}	Low-level output current	V _{CC} = MIN, I _{OL} = MAX		0.4	V
I _I	Input current at maximum input voltage	Write: V _{CC} = MAX, V _I = 5.5V Address: V _{CC} = MAX, V _I = 2.4V		1	mA
I _{IH}	High-level input current	Write: V _{CC} = MAX, V _I = 4.5V Address: V _{CC} = MAX, V _I = 0.4V		40	µA
I _{IL}	Low-level input current	Write: V _{CC} = MAX, V _I = 0.4V Address: V _{CC} = MAX, V _I = 0.4V		-11	mA
I _{CC}	Supply current	V _{CC} = MAX, All inputs at 0V	SN54* SN74*	70 65	mA
I _{SR}	X1 - Y1	C _L = 30pF		13	ns
		C _L = 200pF		18	30
I _{PHL}	X1 - Y1	C _L = 30pF	SN54	11	19
		C _L = 200pF	SN74	12	20
I _{PLH}	LOCATION ADDRESSED	C _L = 30pF	SN54	17	26
		C _L = 200pF	SN74	18	27
I _{PHL}	X1 thru X4 and Y1	C _L = 30pF	SN54	13	20
		C _L = 200pF	SN74	12	19
I _{PLH}	X1 thru X4 and Y1	C _L = 30pF	SN54	27	40
		C _L = 200pF	SN74	18	27
I _{PHL}	X1 thru X4 and Y1	C _L = 30pF	SN54	10	18
		C _L = 200pF	SN74	11	19
I _{PLH}	X1 thru X4 and Y1	C _L = 30pF	SN54	16	25
		C _L = 200pF	SN74	17	26
I _{PLH}	X1 thru X4 and Y1	C _L = 30pF	SN54	13	20
		C _L = 200pF	SN74	13	20
I _{PLH}	X1 thru X4 and Y1	C _L = 30pF	SN54	27	40
		C _L = 200pF	SN74	19	28

Pin Assignment (Top View)



logic: See logic diagram

Logic Diagram



81A 16-BIT ACTIVE-ELEMENT MEMORIES

NOTE: This is the voltage between two emitters of a multiple-emitter transistor. For this circuit, this rating applies to any X input in conjunction with any Y input.

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

‡ All typical values are at V_{CC} = 5V, T_A = 25°C.

For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

* t_{SR} = Sense recovery time after writing

† t_{PHL} = Propagation delay time, high to low-level output

‡ t_{PLH} = Propagation delay time, low-to-high-level output