

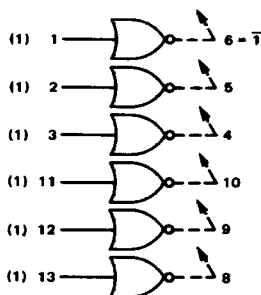
HEX EXPANDERS

MRTL MC900/800 series

MC9919 • MC9819

Available in TO-86 flat package, add "F" suffix.

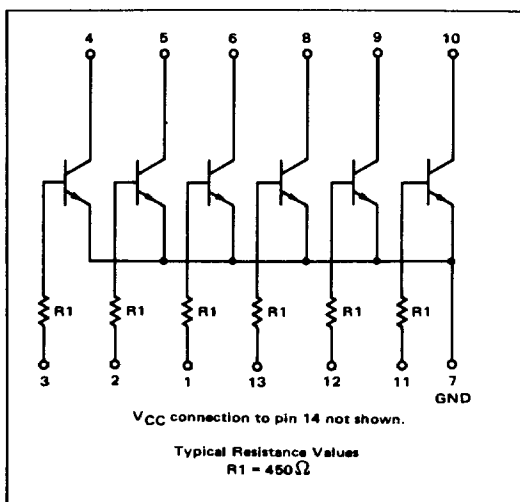
Six individual expanders are contained in a single package providing increased input capability for MRTL gates.



$t_{pd} = 12 \text{ ns}$
 $P_D = 13 \text{ mW typ (Input High)}$
 Negligible (Inputs Low)

NUMBER IN PARENTHESIS INDICATES
 MRTL LOADING FACTOR.

When an expander is added to a gate, subtract 0.4 load from the output of the gate for each expander circuit added. The input loading factor of the expanded gate is 1.3. Pin 14 of the expander must be connected to V_{CC} .



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MC9919, MC9819 (continued)

ELECTRICAL CHARACTERISTICS

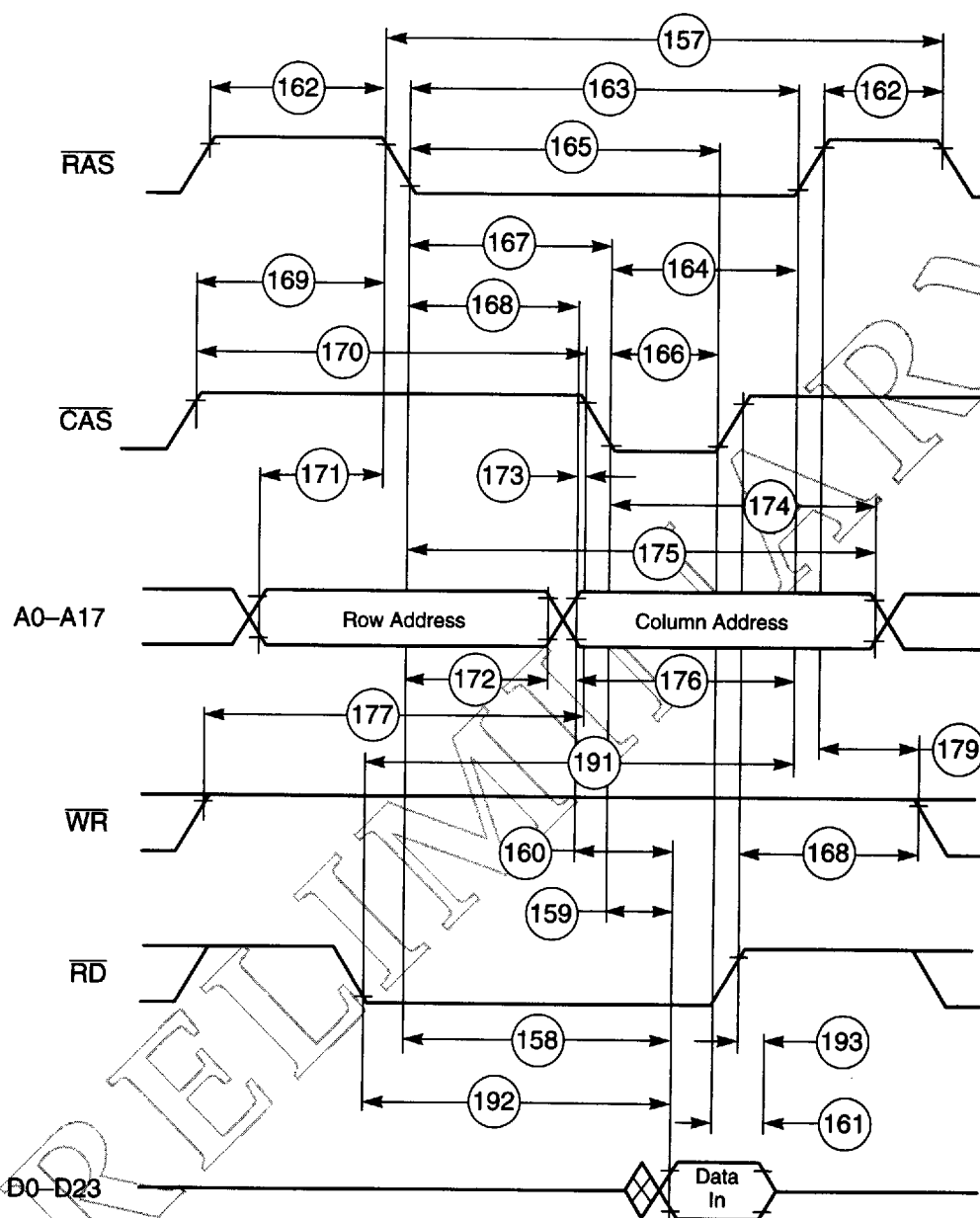
Test procedures are shown for one expander only.
The other expanders are tested in the same manner.

Electrical Characteristics		Pin Under Test	MC9919 Test Limits						MC9819 Test Limits						TEST VOLTAGE VALUES						
			-55°C		+25°C		+125°C		0°C		+25°C		+100°C		APPLIED TO PINS LISTED BELOW:						
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	V _{in}	V _{on}	V _{boot}	V _{off}	V _{cc}	V _{st}	
			Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	
Input Current	I _{in}	1	-	495	-	435	-	470	μAdc	-	504	-	450	μAdc	1	-	-	-	14	6	7
Output Leakage Current	I _{CEX}	6	-	100	-	218	-	235	μAdc	-	100	-	225	μAdc	6	-	-	1	14	-	7
Output Voltage	V _{out}	6	-	710	-	500	-	320	mVdc	-	574	-	400	mVdc	-	1	-	-	14	6	7
Saturation Voltage	V _{CE(sat)}	6	-	200	-	210	-	280	mVdc	-	290	-	260	mVdc	-	-	1	-	14	6	7

TEST VOLTAGE VALUES		@ Test Temperature		TEST VOLTAGE VALUES (Volts)					
				V _{in}	V _{on}	V _{boot}	V _{off}	V _{cc}	V _{st}
MC9919	-55°C	1.014	1.014	1.50	0.710	3.00	680		
	+25°C	0.844	0.815	1.50	0.565	3.00	680		
	+125°C	0.874	0.874	1.50	0.320	3.00	680		
MC9819	0°C	0.908	0.908	1.50	0.574	3.00	680		
	+25°C	0.844	0.844	1.50	0.554	3.00	680		
	+100°C	0.710	0.710	1.50	0.370	3.00	680		

Ground inputs of expanders not used in test. Other pins not listed are left open.

* Resistor value to V_{CC}.



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Figure 2-18 DRAM Out-of-Page Read Access