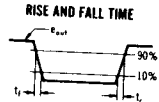
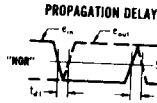
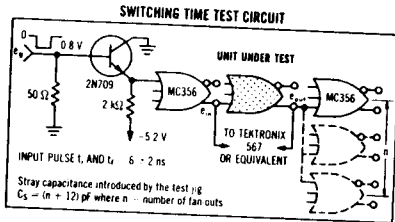
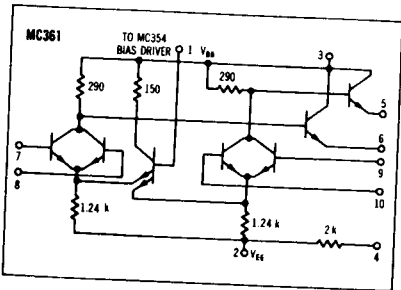
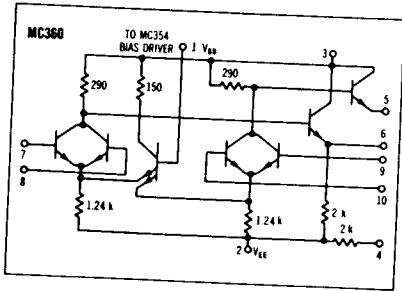
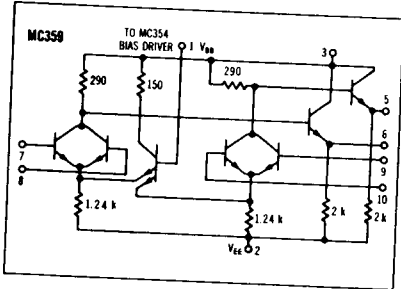
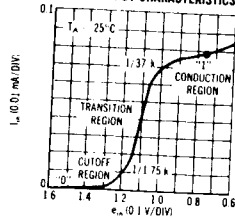


**MC359 · MC360 · MC361**

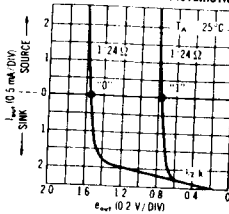
Dual 2-input gates that provide the positive logic "NOR" function. MC359 has two output pull-down resistors; MC360 has one of the output pull-down resistors optional; MC361 omits one output pull-down resistor and has the second optional.



TYPICAL INPUT CHARACTERISTICS



TYPICAL OUTPUT CHARACTERISTICS



MC359, MC360, MC361 (continued)

ELECTRICAL CHARACTERISTICS

Characteristic	Test Conditions										Test Limits						Unit
	V <sub>CC</sub> ± 1%										0°C		+25°C		+75°C		
	V <sub>CC</sub> Pin No	V <sub>CCmax</sub> Pin No	V <sub>CC</sub> Pin No	V <sub>CC</sub> Pin No	V <sub>CC</sub> Pin No	V <sub>CC</sub> Pin No	dV <sub>CC</sub> Pin No	I <sub>CC</sub> Pin No	Ground Pin No	Symbol Pin No ( )	Min	Max	Min	Max	Min	Max	
Power Supply	MC359, MC360	—	—	—	2,7,8,9,10	1	—	—	—	—	—	—	—	—	—	—	
Steady Current	MC361	—	—	—	2,7,8,9,10	1	—	—	3	I <sub>CC</sub> (2)	13.55	—	13.0	—	12.0	mA/dc	
Input Current					2,7,8,9,10	1			3	I <sub>CC</sub> (2)	—	—	—	—	—	—	
										I <sub>CC</sub> (3)	—	—	—	—	—	—	
										I <sub>CC</sub> (8)	—	—	—	—	—	—	
										I <sub>CC</sub> (10)	—	—	—	—	—	—	
"WM" Legend "1" Output Voltage					2,7,8,9,10	1			3	V <sub>OL</sub> (8)	-0.715	-0.950	-0.670	-0.795	-0.990	-0.725	Vdc
										V <sub>OL</sub> (9)	—	—	—	—	—	—	
										V <sub>OL</sub> (10)	—	—	—	—	—	—	
										V <sub>OL</sub> (5)	—	—	—	—	—	—	
"WM" Legend "0" Output Voltage		7			2,7,8,9,10	1			3	V <sub>OH</sub> (8)	-1.610	-1.860	-1.065	-1.790	-1.395	-1.730	Vdc
										V <sub>OH</sub> (9)	—	—	—	—	—	—	
										V <sub>OH</sub> (10)	—	—	—	—	—	—	
										V <sub>OH</sub> (5)	—	—	—	—	—	—	
"WM" Output Voltage Change (Pin load to full load)					2,7,8,9,10	1		6⊕	3	ΔV <sub>OL</sub> (8)	-0.055	—	-0.055	—	-0.065	Vdc	
										ΔV <sub>OL</sub> (9)	-0.055	—	-0.055	—	-0.065	Vdc	
"WM" Extension Input/output Voltage					2,8,9,10	1		7⊕	3	V <sub>OL</sub> (8)	—	—	—	-0.51	—	-0.63	Vdc
										V <sub>OL</sub> (9)	—	—	—	—	—	—	
										V <sub>OL</sub> (10)	—	—	—	—	—	—	
										V <sub>OL</sub> (5)	—	—	—	—	—	—	
Switching Times	Pulse In	Pulse Out			2,8,9,10	1		7⊕	3	V <sub>OL</sub> (8)	Typ	Max	Typ	Max	Typ	Max	
											ns						
Propagation Delay Time	7	6			2,8,9,10	1		7⊕	3	t <sub>PLH</sub> (8)	6.5	11.0	6.5	11.0	6.0	14.5	
										t <sub>PLH</sub> (9)	6.5	11.0	6.5	11.0	6.0	14.5	
										t <sub>PLH</sub> (10)	6.5	11.0	6.5	11.0	6.0	14.5	
										t <sub>PLH</sub> (5)	6.5	11.0	6.5	11.0	6.0	14.5	
Rise Time	7	6			2,8,9,10	1		7⊕	3	t <sub>R</sub> (8)	8.5	12.5	8.0	12.5	11.0	15.5	
										t <sub>R</sub> (9)	8.5	12.5	8.0	12.5	11.0	15.5	
										t <sub>R</sub> (10)	8.5	12.5	8.0	12.5	11.0	15.5	
										t <sub>R</sub> (5)	8.5	12.5	8.0	12.5	11.0	15.5	
Fall Time	7	8			2,8,9,10	1		7⊕	3	t <sub>F</sub> (8)	9.0	14.0	9.5	14.0	11.5	17.0	
										t <sub>F</sub> (9)	9.0	14.0	9.5	14.0	11.5	17.0	

Pin not listed are left open. For MC359, connect pin 4 to pin 5 for all tests. ⊕ Input voltage is adjusted to obtain dv "WM" / dV<sub>CC</sub> = 0.  
 ⊕ Current test conditions: no load = 0; full load = -2.5 mA dc ± 5%.

SWITCHING CHARACTERISTICS (10% to 90% distribution)

