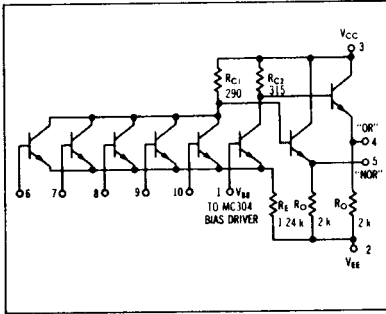


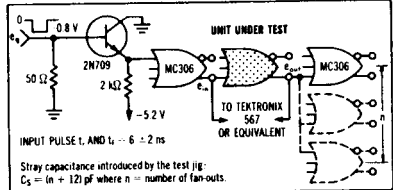
5-INPUT GATE

MC301

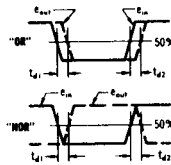
A 5-input gate that provides the positive logic "OR" function and its complement simultaneously.



SWITCHING TIME TEST CIRCUIT



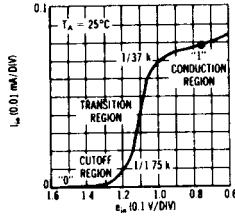
PROPAGATION DELAY



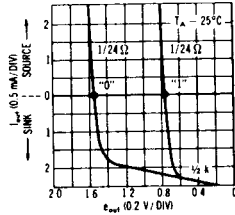
RISE AND FALL TIME



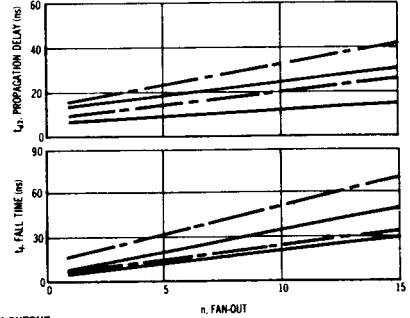
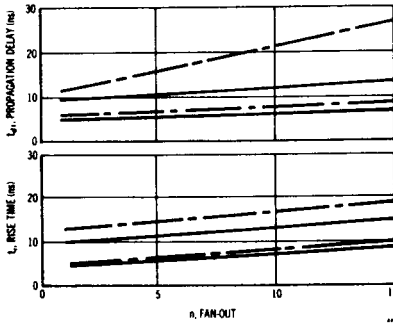
TYPICAL INPUT CHARACTERISTICS



TYPICAL OUTPUT CHARACTERISTICS



SWITCHING CHARACTERISTICS (10% to 90% distribution)



"NOR" OUTPUT

— -55°C and +25°C
 - - - +125°C

MC301 (continued)

ELECTRICAL CHARACTERISTICS

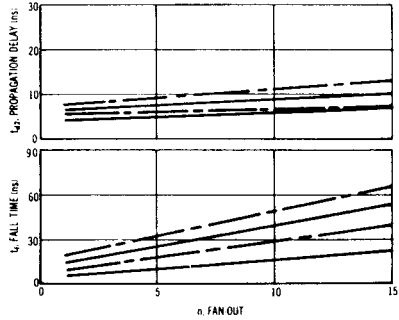
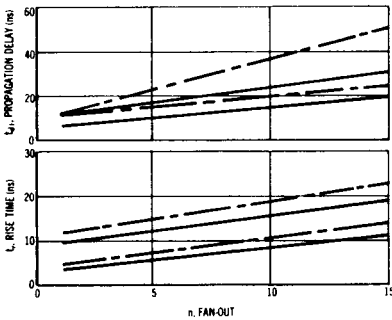
Characteristic	Test Conditions										Symbol Pin No. J	Test Limits						Unit
	Vdc = 1%											-55°C		+25°C		+125°C		
	V _{IN} Pin No.	V _{IMAX} Pin No.	V _I Pin No.	V _{EST} Pin No.	V _{SA} Pin No.	dV _{IN} Pin No.	I _L Pin No.	Ground Pin No.	Min	Max		Min	Max	Min	Max	Min	Max	
Power Supply Brain Current	---	---	---	2.67.8.9.10	---	---	---	3	I _{IN} (2)	---	---	---	---	---	---	mA _{DC}		
Input Current	6	---	---	2.7.8.9.10	---	---	---	3	I _{IN} (6)	---	---	---	---	---	---	mA _{DC}		
"NOR" Logical "1" Output Voltage	7	---	---	2.6.8.9.10	---	---	---	3	V _{OUT} (7)	---	---	100	---	---	---	V _{DC}		
	8	---	---	2.6.7.9.10	---	---	---	3	V _{OUT} (8)	---	---	---	---	---	---	V _{DC}		
	9	---	---	2.6.7.8.10	---	---	---	3	V _{OUT} (9)	---	---	---	---	---	---	V _{DC}		
	10	---	---	2.6.7.8.9	---	---	---	3	V _{OUT} (10)	---	---	---	---	---	---	V _{DC}		
"NOR" Logical "0" Output Voltage	---	6	---	2.7.8.9.10	---	---	---	3	V _{OUT} (6)	0.825	0.945	0.890	0.795	0.525	0.655	V _{DC}		
	---	7	---	2.6.8.9.10	---	---	---	3	V _{OUT} (7)	---	---	---	---	---	---	V _{DC}		
	---	8	---	2.6.7.9.10	---	---	---	3	V _{OUT} (8)	---	---	---	---	---	---	V _{DC}		
	---	10	---	2.6.7.8.9	---	---	---	3	V _{OUT} (10)	---	---	---	---	---	---	V _{DC}		
"OR" Logical "1" Output Voltage	---	6	---	2.7.8.9.10	---	---	---	3	V _{OUT} (6)	0.825	0.945	0.890	0.795	0.525	0.655	V _{DC}		
	---	7	---	2.6.8.9.10	---	---	---	3	V _{OUT} (7)	---	---	---	---	---	---	V _{DC}		
	---	8	---	2.6.7.9.10	---	---	---	3	V _{OUT} (8)	---	---	---	---	---	---	V _{DC}		
	---	10	---	2.6.7.8.9	---	---	---	3	V _{OUT} (10)	---	---	---	---	---	---	V _{DC}		
"OR" Logical "0" Output Voltage	---	---	6	2.7.8.9.10	---	---	---	3	V _{OUT} (6)	1.500	1.850	1.465	1.750	1.340	1.675	V _{DC}		
	---	---	7	2.6.8.9.10	---	---	---	3	V _{OUT} (7)	---	---	---	---	---	---	V _{DC}		
	---	---	8	2.6.7.9.10	---	---	---	3	V _{OUT} (8)	---	---	---	---	---	---	V _{DC}		
	---	---	10	2.6.7.8.9	---	---	---	3	V _{OUT} (10)	---	---	---	---	---	---	V _{DC}		
"NOR" Output Voltage Change (No load to full load)	---	---	6	2.7.8.9.10	---	---	5 ⊕	3	V _{OUT} (6)	---	---	0.055	---	---	0.060	Volts		
"OR" Output Voltage Change (No load to full load)	---	6	---	2.7.8.9.10	---	---	4 ⊙	3	V _{OUT} (6)	---	---	0.055	---	---	0.060	Volts		
"NOR" Saturation Breakpoint Voltage	---	---	---	2.6.8.9.10	---	6 ⊕	---	3	V _{OUT} (6)	---	---	0.40	---	---	---	V _{DC}		
Switching Times	Propagation Delay Time	Pulse In	Pulse Out	---	2.7.8.9.10	---	---	---	---	---	---	---	---	---	---	ns		
		6	4	---	2.7.8.9.10	---	---	---	3	t _{pd} (6)	8.0	12.0	6.5	12.5	10.0	15.5		
	6	5	---	2.7.8.9.10	---	---	---	3	t _{pd} (5)	6.5	10.0	6.5	11.0	7.5	14.0			
	6	4	---	2.7.8.9.10	---	---	---	3	t _{pd} (4)	5.5	9.0	6.0	10.0	8.0	12.0			
	6	5	---	2.7.8.9.10	---	---	---	3	t _{pd} (5)	7.5	11.0	8.0	12.5	10.0	15.5			
	6	4	---	2.7.8.9.10	---	---	---	3	t _{pd} (4)	6.5	9.0	7.0	10.0	10.5	15.5			
Rise Time	6	4	---	2.7.8.9.10	---	---	---	3	t _r (4)	8.5	14.0	9.0	14.5	13.0	17.5			
Fall Time	6	4	---	2.7.8.9.10	---	---	---	3	t _f (4)	7.0	11.5	7.5	13.0	10.0	16.0			
6	5	---	2.7.8.9.10	---	---	---	3	t _f (5)	7.0	11.0	7.5	12.5	10.0	15.5				

Pins not listed are left open

⊕ Input voltage is adjusted to obtain dV_{IN}/dV_{IN} = "0"

⊙ Current test conditions: no load

⊕ Full load --- 2.5mADC ±5%



"OR" OUTPUT

— — — -55°C and +25°C
- - - +125°C