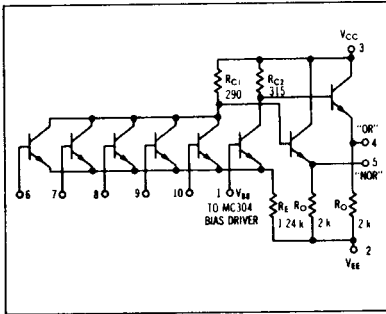


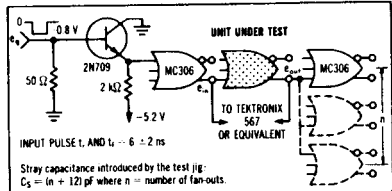
5-INPUT GATE

MC301

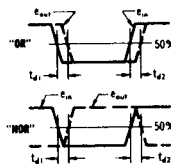
A 5-input gate that provides the positive logic "OR" function and its complement simultaneously.



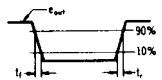
SWITCHING TIME TEST CIRCUIT



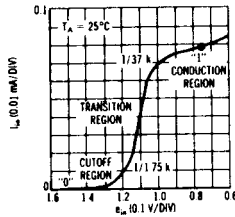
PROPAGATION DELAY



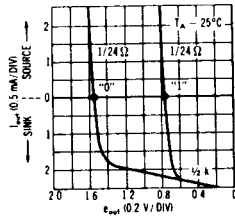
RISE AND FALL TIME



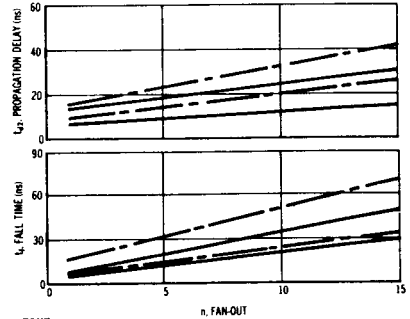
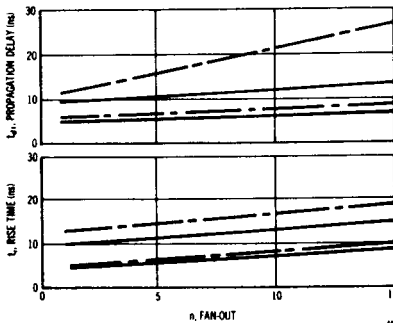
TYPICAL INPUT CHARACTERISTICS



TYPICAL OUTPUT CHARACTERISTICS



SWITCHING CHARACTERISTICS (10% to 90% distribution)



"NOR" OUTPUT

— -55°C and +25°C
 - - +125°C

MC301 (continued)

ELECTRICAL CHARACTERISTICS

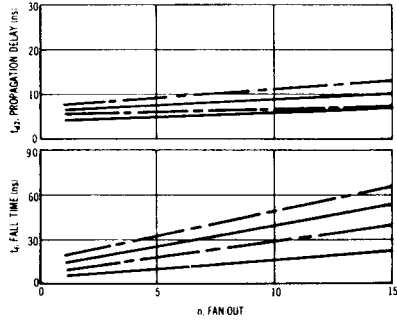
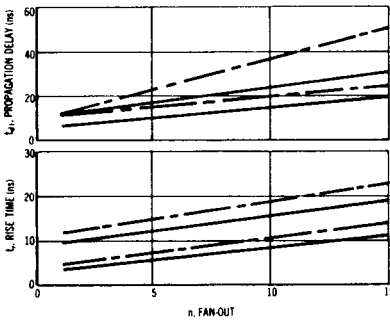
Characteristic	Test Conditions										Test Limits						Unit
	Vdc = 1%										-55°C		+25°C		+125°C		
	V _{IN} Pin No.	V _{INmax} Pin No.	V _I Pin No.	V _{EST} Pin No.	V _{SA} Pin No.	dV _{IN} Pin No.	I _L Pin No.	Ground Pin No.	Symbol Pin No. J	Min	Max	Min	Max	Min	Max	R 15	
Power Supply Brain Current	---	---	---	2.67.8.9.10	1	---	---	3	I _{IN} (2)	---	---	---	---	---	---	mADC	
Input Current	6	---	---	2.7.8.9.10	1	---	---	3	I _{IN} (6)	---	---	---	---	---	---	μADC	
"00" Logical "1" Output Voltage	7	---	---	2.6.7.9.10	1	---	---	3	V _O (7)	---	---	---	---	---	---	Vdc	
	8	---	---	2.6.7.9.10	1	---	---	3	V _O (8)	---	---	---	---	---	---	Vdc	
	9	---	---	2.6.7.8.10	1	---	---	3	V _O (9)	---	---	---	---	---	---	Vdc	
	10	---	---	2.6.7.8.9	1	---	---	3	V _O (10)	---	---	---	---	---	---	Vdc	
"00" Logical "0" Output Voltage	6	---	---	2.7.8.9.10	1	---	---	3	V _O (6)	0.825	0.945	0.890	0.795	0.525	0.655	Vdc	
	7	---	---	2.6.8.9.10	1	---	---	3	V _O (7)	↓	↓	↓	↓	↓	↓	Vdc	
	8	---	---	2.6.7.9.10	1	---	---	3	V _O (8)	↓	↓	↓	↓	↓	↓	Vdc	
	10	---	---	2.6.7.8.9	1	---	---	3	V _O (10)	↓	↓	↓	↓	↓	↓	Vdc	
"01" Logical "1" Output Voltage	6	---	---	2.7.8.9.10	1	---	---	3	V _O (6)	0.825	0.945	0.890	0.795	0.525	0.655	Vdc	
	7	---	---	2.6.8.9.10	1	---	---	3	V _O (7)	↓	↓	↓	↓	↓	↓	Vdc	
	8	---	---	2.6.7.9.10	1	---	---	3	V _O (8)	↓	↓	↓	↓	↓	↓	Vdc	
	10	---	---	2.6.7.8.9	1	---	---	3	V _O (10)	↓	↓	↓	↓	↓	↓	Vdc	
"01" Logical "0" Output Voltage	6	---	---	2.7.8.9.10	1	---	---	3	V _O (6)	1.500	1.850	1.465	1.750	1.940	1.675	Vdc	
	7	---	---	2.6.8.9.10	1	---	---	3	V _O (7)	↓	↓	↓	↓	↓	↓	Vdc	
	8	---	---	2.6.7.9.10	1	---	---	3	V _O (8)	↓	↓	↓	↓	↓	↓	Vdc	
	10	---	---	2.6.7.8.9	1	---	---	3	V _O (10)	↓	↓	↓	↓	↓	↓	Vdc	
"00" Output Voltage Change (No load to full load)	---	---	6	2.7.8.9.10	1	---	5(0)	3	V _O (6)	---	---	0.055	---	---	0.060	Volts	
"01" Output Voltage Change (No load to full load)	---	6	---	2.7.8.9.10	1	---	4(0)	3	V _O (6)	---	---	0.055	---	---	0.060	Volts	
"00" Saturated Breakpoint Voltage	---	---	---	2.7.8.9.10	1	6(+)	---	3	V _O (6)	---	---	---	---	---	---	Vdc	
Switching Times	Pulse In	Pulse Out	---	2.7.8.9.10	1	6(+)	---	3	V _O (6)	Typ	Max	Typ	Max	Typ	Max	ns	
	Propagation Delay Time	6	4	---	2.7.8.9.10	1	---	3	t _{pd} (6)	8.0	12.0	6.5	12.5	10.0	15.5	ns	
Rise Time	6	4	---	2.7.8.9.10	1	---	3	t _r (6)	6.5	10.0	6.5	11.0	7.5	14.0			
	Fall Time	6	4	---	2.7.8.9.10	1	---	3	t _f (6)	5.5	9.0	6.0	10.0	8.0	12.0		
6		5	---	2.7.8.9.10	1	---	3	t _f (5)	7.5	11.0	8.0	12.5	10.0	15.5			
	6	4	---	2.7.8.9.10	1	---	3	t _r (4)	6.5	9.0	7.0	10.0	10.5	15.5			
6		5	---	2.7.8.9.10	1	---	3	t _r (5)	8.5	14.0	9.0	14.5	11.0	17.5			
	6	4	---	2.7.8.9.10	1	---	3	t _f (4)	7.0	11.5	7.5	13.0	10.0	16.0			
6		5	---	2.7.8.9.10	1	---	3	t _f (5)	7.0	11.0	7.5	12.5	10.0	15.5			

Pins not listed are left open

(1) Input voltage is adjusted to obtain dV_{IN}/dV_{IN} = "0"

(2) Current test conditions: no load

(3) Full load --- 2.5mADC ± 5%



"01" OUTPUT

— — — -55°C and +25°C
 - - - - +125°C