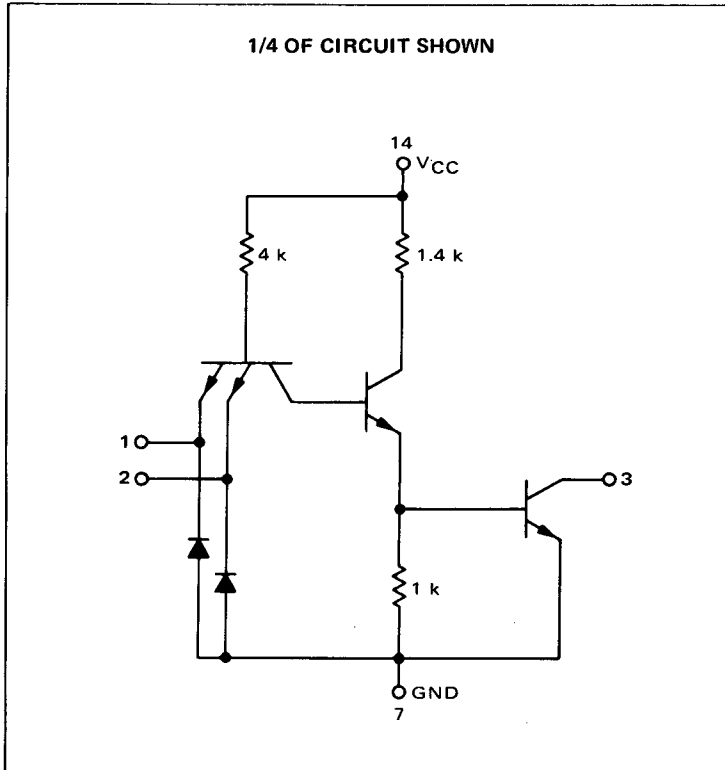
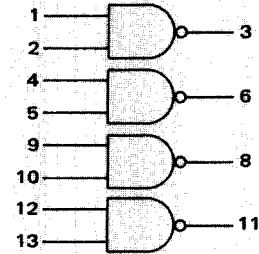




**MC5403L\***  
**MC7403P,L\***



This device consists of four 2-input NAND gates with no output pullup circuits. It can be used where the Wired-OR function is required, or for driving discrete components.



Positive Logic:  $3 = \overline{1 \cdot 2}$   
Negative Logic:  $3 = \overline{1 + 2}$

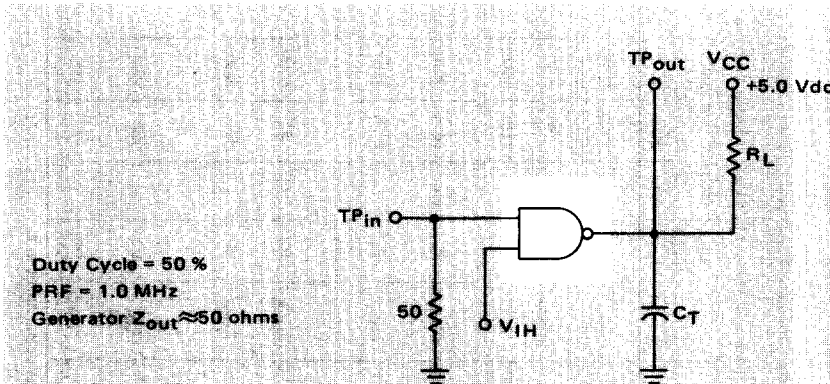
Input Loading Factor = 1  
Output Loading Factor = 10

Total Power Dissipation = 40 mW typ/pkg  
Propagation Delay Time = 35 ns typ

\* L suffix = TO-116 ceramic package (Case 632)  
P suffix = TO-116 plastic package (Case 605)  
See General Information section for package outline dimensions.

*42* *OAIg*  
*4467* *004467* *not*

VOLTAGE WAVEFORMS AND DEFINITIONS



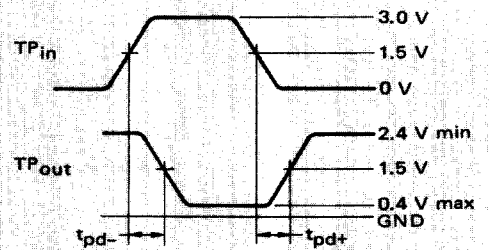
Duty Cycle = 50 %  
PRF = 1.0 MHz  
Generator  $Z_{out} \approx 50$  ohms

$R_L = 400$  ohms for  $t_{pd-}$  test.  
 $4.0$  k ohms for  $t_{pd+}$  test.

$C_T = 15$  pF = total parasitic capacitance, which includes probe, wiring, and load capacitances.

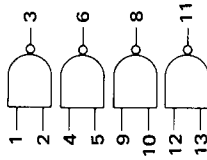
High impedance probes ( $>1.0$  megohm) must be used for tests.

SWITCHING TIME TEST CIRCUIT



**ELECTRICAL CHARACTERISTICS**

Test procedures are shown for only one gate. The other gates are tested in the same manner. Further, test procedures are shown for only one input of the gate under test. To complete testing, sequence through remaining inputs.



Characteristic	Symbol	Pin Under Test	TEST CURRENT / VOLTAGE VALUES (All Temperatures)						mA	TEST CURRENT / VOLTAGE VALUES (All Temperatures)											
			MC5403 Test Limits -55 to +125°C							Volts											
			Min	Max	Unit	V <sub>IL</sub>	V <sub>IH</sub>	V <sub>IHH</sub>		V <sub>R1</sub>	V <sub>R2</sub>	V <sub>th1</sub>	V <sub>th0</sub>	V <sub>CEX</sub>	V <sub>CC</sub>	V <sub>CCL</sub>	V <sub>CCH</sub>				
Input Forward Current	I <sub>F</sub>	1	Min	-1.6	mA	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.5	5.0	4.5	5.5					
			Max	-1.6	mA	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.5	5.0	4.5	5.5					
			Unit	mA																	
Leakage Current	I <sub>R1</sub>	1	Min	-	μA	-	1	-	-	-	-	-	-	-	-	-					
			Max	40	μA	-	1	-	-	-	-	-	-	-	-	-	-				
			Unit	μA																	
Output Output Voltage	V <sub>OL</sub>	3	Min	-	Vdc	-	-	-	-	1.2	-	-	-	-	-	-					
			Max	0.4	Vdc	-	-	-	-	-	-	-	-	-	-	-	-				
			Unit	Vdc																	
Output Leakage Current	I <sub>CEX</sub>	3	Min	-	mA	-	-	-	1	-	-	-	-	-	-	-					
			Max	0.25	mA	-	-	-	-	-	-	-	-	-	-	-	-				
			Unit	mA																	
Power Requirements (Total Device) Power Supply Drain	I <sub>PDH</sub>	14	Min	-	mA	-	-	-	-	-	-	-	-	-	-	-					
			Max	22	mA	-	-	-	-	-	-	-	-	-	-	-	-				
			Unit	mA																	
Switching Parameters	t <sub>pd-</sub>	1,3	Min	-	ns	-	-	-	-	-	-	-	-	-	-	-					
			Max	15**	ns	-	-	-	-	-	-	-	-	-	-	-	-				
			Unit	ns																	
t <sub>pd+</sub>	1,3	Min	-	ns	-	-	-	-	-	-	-	-	-	-	-	-					
		Max	45**	ns	-	-	-	-	-	-	-	-	-	-	-	-					
		Unit	ns																		

\* Ground inputs to gates not under test.  
\*\* Tested only at 25°C.



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