

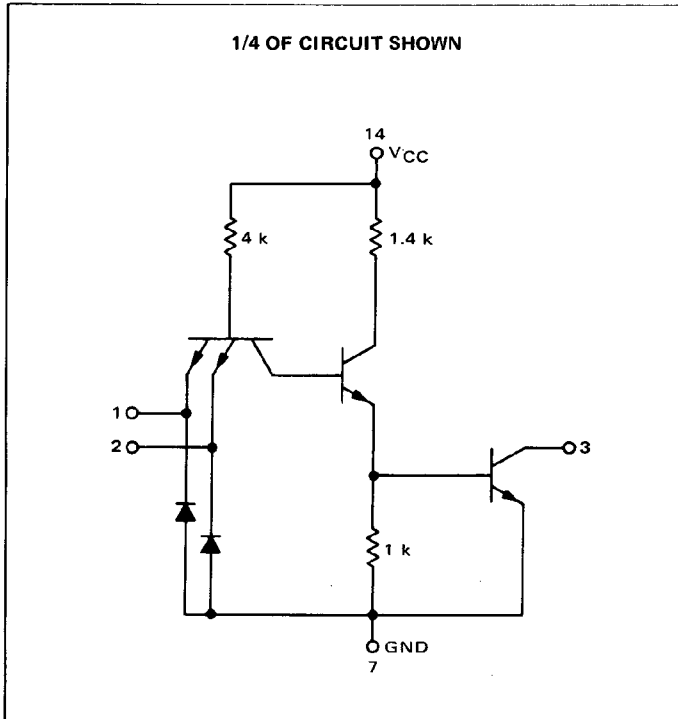
QUAD 2-INPUT "NAND" GATE  
WITH OPEN COLLECTOR

MTTL MC7400P series  
MTTL MC5400L/7400L series

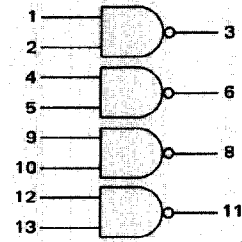


DECEMBER 1969

**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:  $3 = 1 + 2$

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

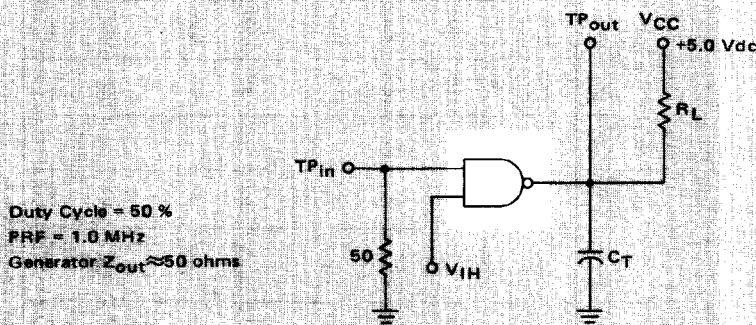
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not

VOLTAGE WAVEFORMS AND DEFINITIONS



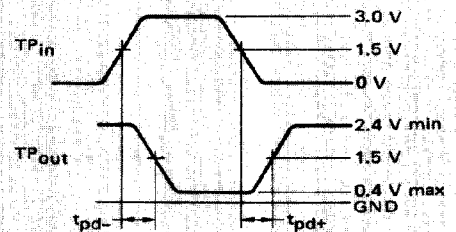
Duty Cycle = 50 %  
PRF = 1.0 MHz  
Generator  $Z_{out} \approx 50$  ohms

$R_L = 400$  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.

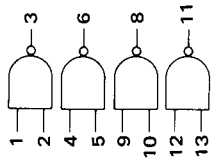
High impedance probes ( $>1.0$  megohm) must be used for tests.

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.



		TEST CURRENT / VOLTAGE VALUES (All Temperatures)													
		Volts													
mA		$I_{OL}$	$V_{IL}$	$V_{IH}$	$V_{IHH}$	$V_{R1}$	$V_{R2}$	$V_{th1}$	$V_{th0}$	$V_{CEX}$	$V_{CC}$	$V_{CCL}$	$V_{CCH}$		
Input	Forward Current	16	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.5	5.0	4.5	5.5	7*	
	Leakage Current	16	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.5	5.0	4.75	5.25		
Output	Output Voltage														
	Output Leakage Current														
Power Requirements (Total Device)	Power Supply Drain														
	Switching Parameters														
Pin Under Test	1														
	3														
Symbol	$I_F$														
	$I_{R1}$														
MC5403 Test Limits -55 to +125°C	Min														
	Max														
MC7403 Test Limits 0 to +70°C	Min														
	Max														
Unit	mAdc														
	$\mu$ Adc														
Pin Under Test	1														
	3														
Symbol	$I_{OL}$														
	$V_{OL}$														
MC5403 Test Limits -55 to +125°C	Min														
	Max														
MC7403 Test Limits 0 to +70°C	Min														
	Max														
Unit	mAdc														
	Vdc														
Pin Under Test	1														
	3														
Symbol	$I_{R1}$														
	$I_{R2}$														
MC5403 Test Limits -55 to +125°C	Min														
	Max														
MC7403 Test Limits 0 to +70°C	Min														
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