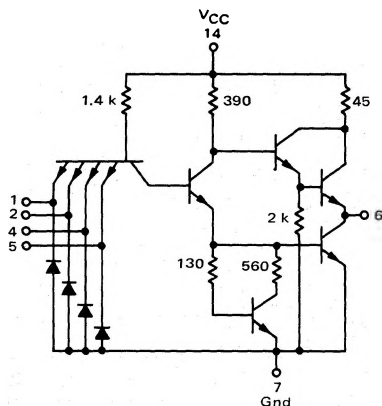


DUAL 4-INPUT "NAND" BUFFER GATE

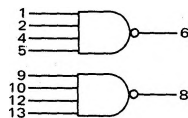
MC3100/MC3000 series

MC3124F • MC3024F
MC3124L • MC3024L,P
(54H40J) (74H40J,N)

CIRCUIT SCHEMATIC
1/2 OF CIRCUIT SHOWN



This device consists of two 4-input NAND power gate circuits. Each gate is designed for driving high fan-out loads (30).



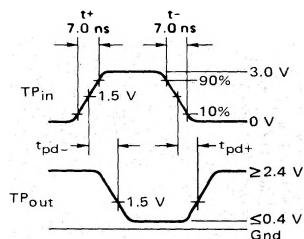
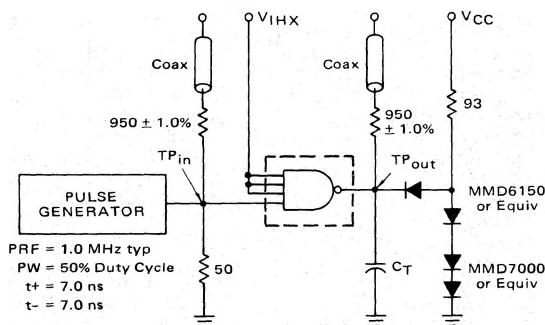
Positive Logic: $6 = 1 + 2 + 4 + 5$
Negative Logic: $6 = 1 + 2 + 4 + 5$

Input Loading Factor = 2
Output Loading Factor = 30
Total Power Dissipation = 90 mW typ/pkg
Propagation Delay Time = 6.0 ns typ

Pin numbers for the 54H40F/74H40F device are shown in the chart. These devices are available on special request.

DEVICE	PIN NUMBERS													
MC3124F,L/3024F,L,P	1	2	3	4	5	6	7	8	9	10	11	12	13	14
54H40F/74H40F	1	12	3	13	14	2	11	10	6	7	5	8	9	4

SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



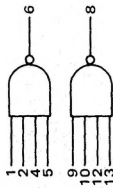
$C_T = 25$ pF = total parasitic capacitance, which includes probe, wiring, and load capacitances.

The coax delays from input to scope and output to scope must be matched. The scope must be terminated in 50-ohm impedance. The 950-ohm resistor and the scope termination impedance constitute a 20:1 attenuator probe. Coax shall be CT-070-50 or equivalent.

MC3124, MC3024 (continued)

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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Characteristic	Symbol	Pin Under Test	MC3124 Test Limits						MC3024 Test Limits						TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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* Since this is an inverting gate, power drain is minimised by grounding the inputs to gates not under test.