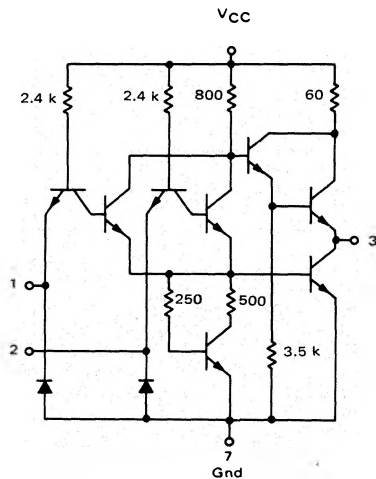


QUAD 2-INPUT "NOR" GATE

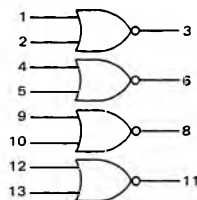
MC3100/MC3000 series

MC3102F • MC3002F
MC3102L • MC3002L,P

CIRCUIT SCHEMATIC
1/4 OF CIRCUIT SHOWN



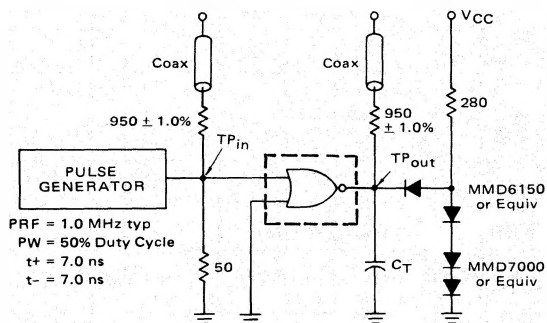
This device consists of four 2-input NOR gates. Each gate may be used as an inverter, or two gates may be cross-coupled to form bistable circuits.



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

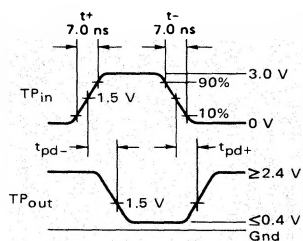
Input Loading Factor = 1
Output Loading Factor = 10
Total Power Dissipation = 122 mW typ/pkg
Propagation Delay Time = 6.0 ns typ

SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



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

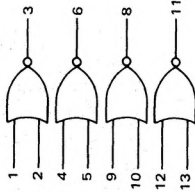
The coax delays from input to scope and output to scope must be matched. The scope must be terminated in 50-ohm impedance. The 950-ohm resistor and the scope termination impedance constitute a 20:1 attenuator probe. Coax shall be CT-070-50 or equivalent.



MC3102, MC3002 (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.



Characteristic		Pin Under Test	MC3102 Test Limits						MC3002 Test Limits						TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW:														Gnd																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			-55°C		+25°C		+125°C		0°C		+25°C		+75°C		TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Input		Symbol	mA		mA		mA		mA		mA		mA		TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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