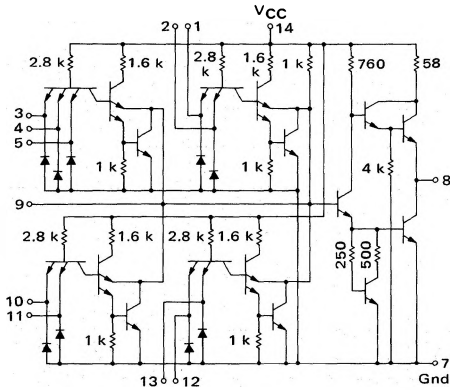


EXPANDABLE 4-WIDE  
2-2-2-3 INPUT  
"AND-OR" GATE

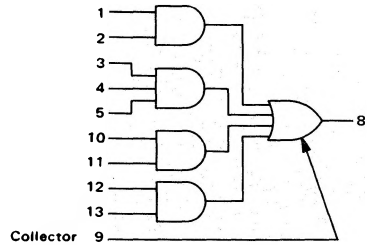
MC3100/MC3000 series

MC3131F • MC3031F  
MC3131L • MC3031L,P  
(54H52J) (74H52J, N)

CIRCUIT SCHEMATIC



This device consists of three 2-input AND gates and one 3-input AND gate ORED together to provide the AND-OR function. A single expander pin is available which provides the capability to expand this gate to a 10-wide AND-OR gate using the MC3119/3019 triple expander.

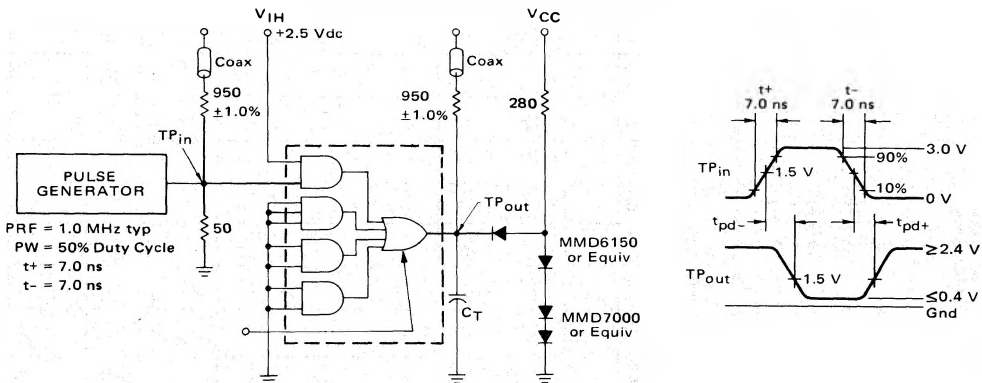


Input Loading Factor = 1  
Output Loading Factor = 10  
Total Power Dissipation = 87.5 mW typ/pkg  
Propagation Delay Time = 10 ns typ

Pin numbers for the 54H52F/74H52F device are shown in the chart. These devices are available on special request.

DEVICE	PIN NUMBERS													
MC3131F,L/3031F,L,P	1	2	3	4	5	6	7	8	9	10	11	12	13	14
54H52F/74H52F	5	6	7	8	9	10	11	12	13	14	1	2	3	4

SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



Expander pins should be left open when measuring switching times.

$C_T = 25 \text{ pF}$  = 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.

