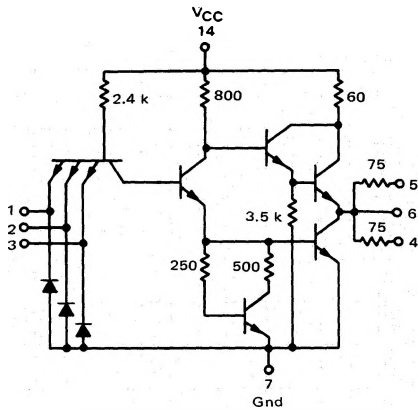


DUAL 3-INPUT 3-OUTPUT  
"NAND" SERIES TERMINATED  
LINE DRIVER

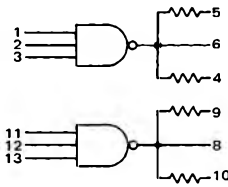
MC3100/MC3000 series

MC3129F • MC3029F  
MC3129L • MC3029L,P

CIRCUIT SCHEMATIC  
1/2 OF CIRCUIT SHOWN



This device is a dual 3-input/3-output series-terminated NAND line driver that minimizes switching transients on long lines by approximating line impedance. Two outputs are provided through 75-ohm resistors for use when driving 93 to 120-ohm lines. These outputs should be paralleled when driving 50 to 93-ohm lines. In addition, an output is provided directly at the gate output node for driving adjacent gates.



Positive Logic: 4, 5, 6 =  $\overline{1 \cdot 2 \cdot 3}$

Negative Logic: 4, 5, 6 =  $\overline{1 + 2 + 3}$

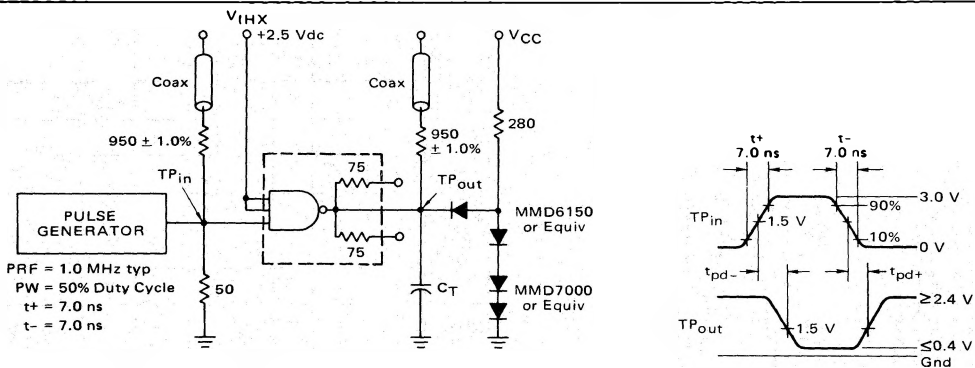
Input Loading Factor = 1

Output Loading Factor, Direct Output (Pins 6 and 8) =  
8 Minus The Number of Resistor-Terminated Outputs  
Being Used.

Output Loading Factor, Resistors (Pins 4, 5, 9 and 10) = 1

Total Power Dissipation = 44 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.

