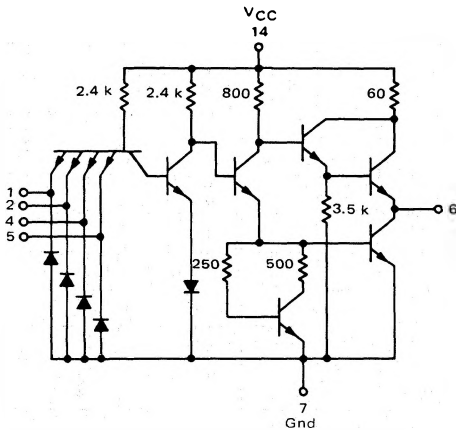


DUAL 4-INPUT "AND" GATE

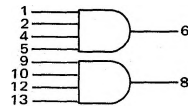
MC3100/MC3000 series

MC3111F • MC3011F
MC3111L • MC3011L,P
 (54H21J) (74H21J,N)

CIRCUIT SCHEMATIC
 1/2 OF CIRCUIT SHOWN



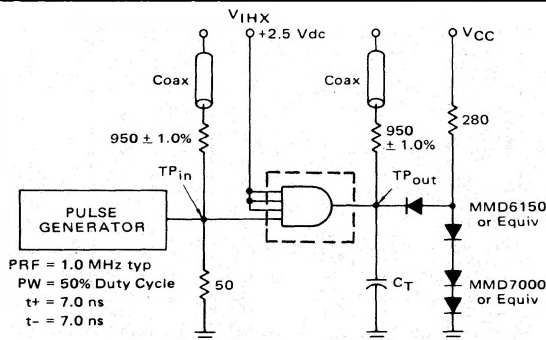
This device consists of two 4-input AND gates. This non-inverting function is useful for optimizing logic design, or for direct implementation of standard logic equations.



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

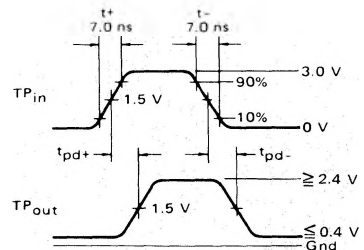
Input Loading Factor = 1
 Output Loading Factor = 10
 Total Power Dissipation = 56 mW typ/pkg
 Propagation Delay Time = 9.0 ns typ

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.



ELECTRICAL CHARACTERISTICS

*Since this is a non-inverting gate, power drain is minimized by tying the inputs to gates not under test to V_{RH}