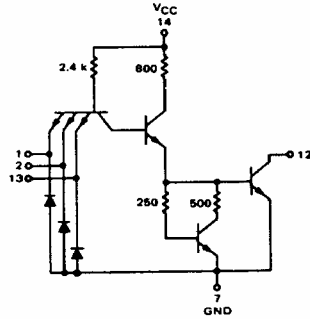


TRIPLE 3-INPUT "NAND" GATE  
(Open Collector)

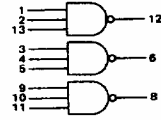
MTTL III MC3100/3000 series

MC3107F • MC3007F  
MC3107L • MC3007L,P

1/3 OF CIRCUIT SHOWN



This device consists of three 3-input NAND gates with no output pull-up circuits. It can be used where the Wired-OR function is required or for driving discrete components.

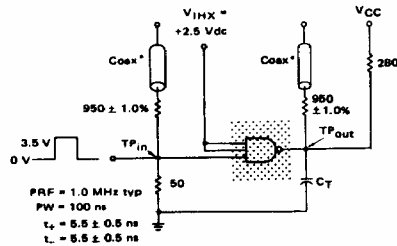


Positive Logic:  $12 = \overline{1 \cdot 2 \cdot 13}$   
Negative Logic:  $12 = \overline{1} \cdot \overline{2} \cdot \overline{13}$

Input Loading Factor = 1  
Output Loading Factor = 10

Total Power Dissipation = 66 mW typ/pkg  
Propagation Delay Time = 8.0 ns typ

SWITCHING TIME TEST CIRCUIT

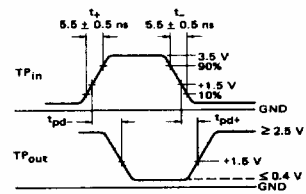


PRF = 1.0 MHz typ  
PW = 100 ns  
 $t_r = 5.5 \pm 0.5$  ns  
 $t_f = 5.5 \pm 0.5$  ns

\*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.

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

VOLTAGE WAVEFORMS AND DEFINITIONS

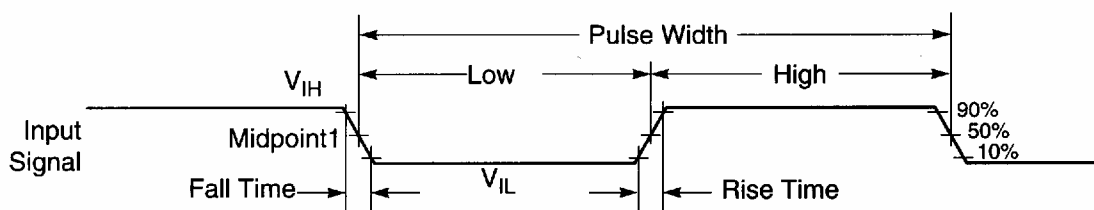


See General Information section for packaging.



## AC ELECTRICAL CHARACTERISTICS

The timing waveforms in the AC Electrical Characteristics are tested with a  $V_{IL}$  maximum of 0.5 V and a  $V_{IH}$  minimum of 2.4 V for all pins, except  $\overline{\text{EXTAL}}$ ,  $\overline{\text{RESET}}$ ,  $\text{MODA}$ ,  $\text{MODB}$ , and  $\text{MODC}$ . These pins are tested using the input levels set forth in the DC Electrical Characteristics. AC timing specifications that are referenced to a device input signal are measured in production with respect to the 50% point of the respective input signal's transition. DSP56002 output levels are measured with the production test machine  $V_{OL}$  and  $V_{OH}$  reference levels set at 0.8 V and 2.0 V, respectively.



Note: The midpoint is  $V_{IL} + (V_{IH} - V_{IL})/2$ .

AA0179

Figure 2-1 Signal Measurement Reference