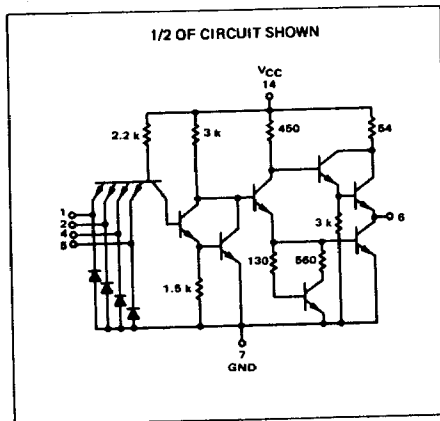


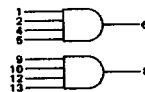
DUAL 4-INPUT "AND"
POWER GATE

MTTL III MC3100/3000 series

MC3126F • MC3026F
MC3126L • MC3026L,P



This device consists of two 4-input AND power gates. Each gate is designed for driving high fan-out loads (20).



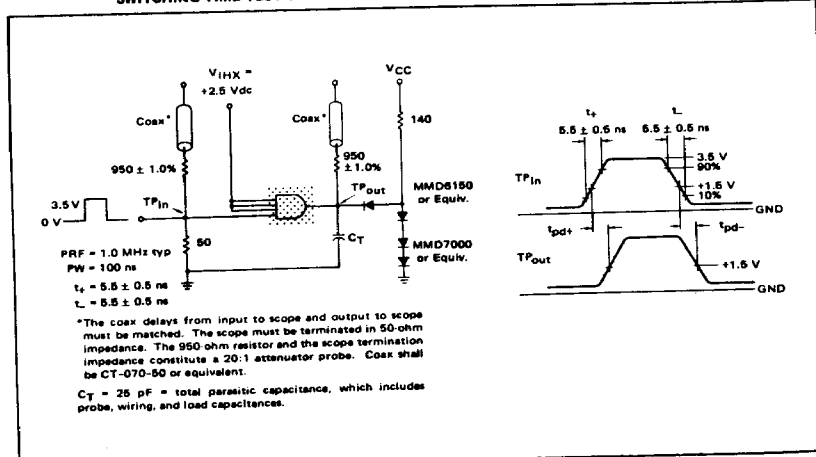
Positive Logic: $6 = 1 + 2 + 4 + 6$
Negative Logic: $6 = 1 + 2 + 4 + 6$

Input Loading Factor = 1.3
Output Loading Factor = 20

Total Power Dissipation = 90 mW typ/pkg
Propagation Delay Time = 9.0 ns typ

SWITCHING TIME TEST CIRCUIT

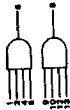
VOLTAGE WAVEFORMS AND DEFINITIONS



See General Information section for packaging.

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one gate. The other gates is 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.



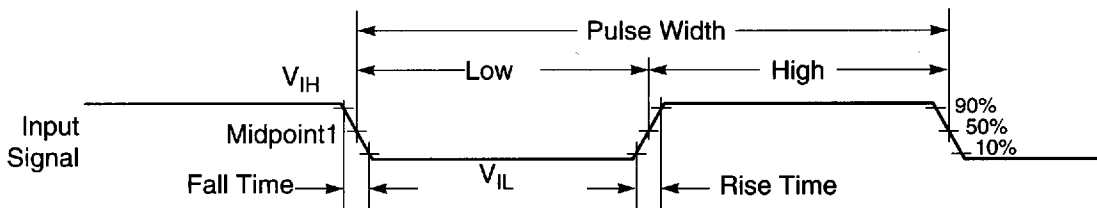
Characteristic	Symbol	MC3126 Test Limits						MC3026 Test Limits						TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:													
		-55°C		+25°C		+75°C		0°C		+25°C		+75°C		-55°C				+25°C				+75°C					
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
Input Current	I_i	1	-1.4	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	-	-3.4	
Power Dissipation	P_{tot}	1	50	90	-	90	-	90	-	90	-	90	-	90	-	90	-	90	-	90	-	90	-	90	-	90	
Leakage Current	I_{leak}	1	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	
Breakdown Voltage	$B_{V_{in}}$	1	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	
Clamp Voltage	V_D	1	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	-	-1.5	
Output Voltage	V_{OH}	6	0.4	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	
Output Voltage	V_{OL}	6	2.4	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	
Short-Circuit Current	I_{sc}	6	-90	-115	-80	-115	-50	-115	-50	-115	-50	-115	-50	-115	-50	-115	-50	-115	-50	-115	-50	-115	-50	-115	-50	-115	
Power Requirements																											
Power (Total Dissip)	P_{tot}	14	-	23	-	23	-	23	-	23	-	23	-	23	-	23	-	23	-	23	-	23	-	23	-	23	
Power Supply Current	I_{PS}	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	
Power Supply Drain	I_{PSD}	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	
Power Supply Drain	I_{PSD}	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	-	14	
Switching Parameters																											
Propagation Delay	t_{pd}	1,6	-	-	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	
Turn-Off Delay	t_{off}	1,6	-	-	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	-	15	
Test Conditions																											

1. Values are in one operating gate, power dissipation is minimized by tying the inputs to gates and output to V_{CC}.

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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 EXTAL, RESET, MODA, MODB, and 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