

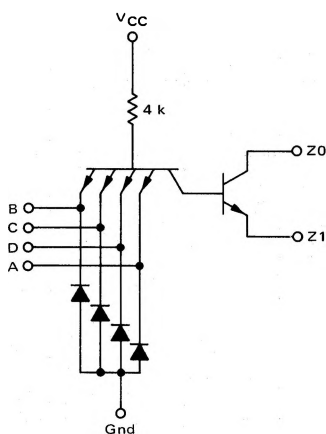
# DUAL 4-INPUT EXPANDER FOR "AND-OR-INVERT" GATES

MC5400/7400 series

## MC5460 • MC7460

Add Suffix F for TO-86 ceramic package (Case 607).  
Suffix L for TO-116 ceramic package (Case 632).  
Suffix P for TO-116 plastic package (Case 605) MC7460 only.

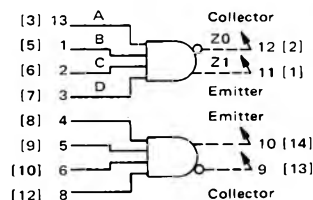
CIRCUIT SCHEMATIC  
1/2 OF CIRCUIT SHOWN



VCC = Pin 14 [4]  
Gnd = Pin 7 [11]

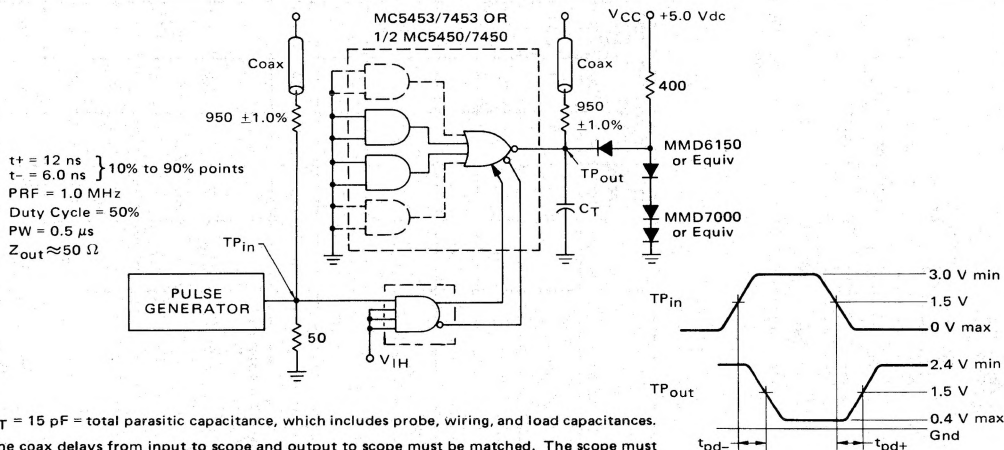
This device consists of two 4-input OR expanders for use with the AND-OR-INVERT gates. A maximum of four expander gates can be added to the MC5450/7450 or MC5453/7453 expandable gates without seriously affecting their operation.

[FLAT] DIL  
Pkg Pkg  
Pin Pin



Input Loading Factor = 1  
Full output loading factor of the expandable gate is maintained.  
Total Power Dissipation = 8.0 mW typ/pkg  
Propagation Delay Time = 5.0 ns typ

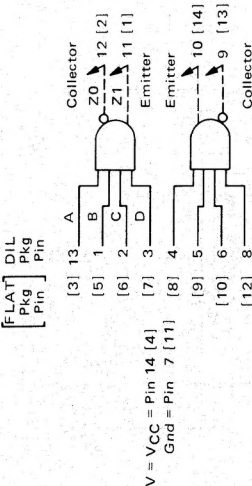
### SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



MC5460, MC7460 (continued)

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one expander. The other expander is tested in the same manner. Further, test procedures are shown for only one input of the expander being tested. To complete testing, sequence through remaining inputs.



TEST VOLTAGE VALUES (All Temperatures)		Volts																TEST VOLTAGE APPLIED TO PINS LISTED BELOW:																Gnd																																																																																																																																																																																																																																																																																																																																																																																																																															
		Ohms		Volts														TEST VOLTAGE APPLIED TO PINS LISTED BELOW:																																																																																																																																																																																																																																																																																																																																																																																																																																															
		R <sub>EX 1</sub>	R <sub>EX 2</sub>	V <sub>IL</sub>	V <sub>IH</sub>	V <sub>IHH</sub>	V <sub>R1</sub>	V <sub>R2</sub>	V <sub>th 1</sub>	V <sub>th 0</sub>	V <sub>O1</sub>	V <sub>O2</sub>	V <sub>O3</sub>	V <sub>CC</sub>	V <sub>CCL</sub>	V <sub>CCH</sub>	R <sub>EX 1</sub>	R <sub>EX 2</sub>	V <sub>IL</sub>	V <sub>IH</sub>	V <sub>IHH</sub>	V <sub>R1</sub>	V <sub>R2</sub>	V <sub>th 1</sub>	V <sub>th 0</sub>	V <sub>O1</sub>	V <sub>O2</sub>	V <sub>O3</sub>	V <sub>CC</sub>	V <sub>CCL</sub>	V <sub>CCH</sub>																																																																																																																																																																																																																																																																																																																																																																																																																																		
MC5460	MC7460	MC7460 Test Limits 0 to +70°C																																Gnd																																																																																																																																																																																																																																																																																																																																																																																																																															
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Input	Characteristic	Symbol	Pin Under Test	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max

<sup>†</sup>V<sub>OL</sub> measured between pins 11 and 12.  
<sup>‡</sup>Tested only at low temperature limit; i. e., at -55°C for MC5460, at 0°C for MC7460.  
\*\*Tested only at 25°C; times include delay of expandable gate.  
\*Resistor to ground.  
†Resistor to V<sub>CCL</sub>.  
#See test circuit.