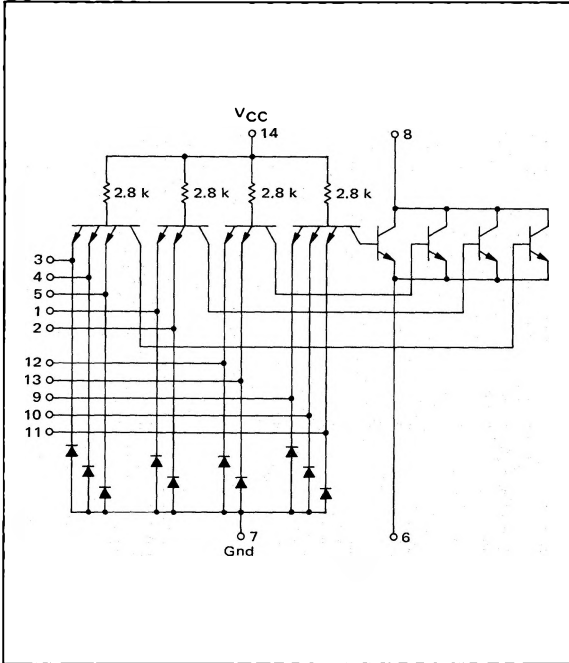


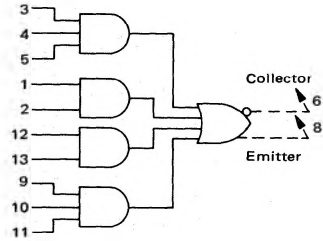
4-WIDE  
3-2-2-3 INPUT EXPANDER FOR  
"AND-OR-INVERT" GATES

MC3100/MC3000 series

**MC3118F • MC3018F**  
**MC3118L • MC3018L,P**  
(54H62J) (74H62J,N)



This expander is designed to expand the AND-OR-INVERT capabilities of the MC3032 and MC3034. One expander can be connected to each expander input of the expandable gate.



Input Loading Factor = 1

Full output loading factor of the expandable gate is maintained.

Total Power Dissipation = 40 mW typ/pkg

Propagation Delay Time:

$\Delta t_{pd1} = +0.4$  ns typ

$\Delta t_{pd0} = 0.05$  ns typ

When added to the expandable "AND-OR-INVERT" gate.

$\Delta t_{pd1/pF} = +0.3$  ns/pF typ

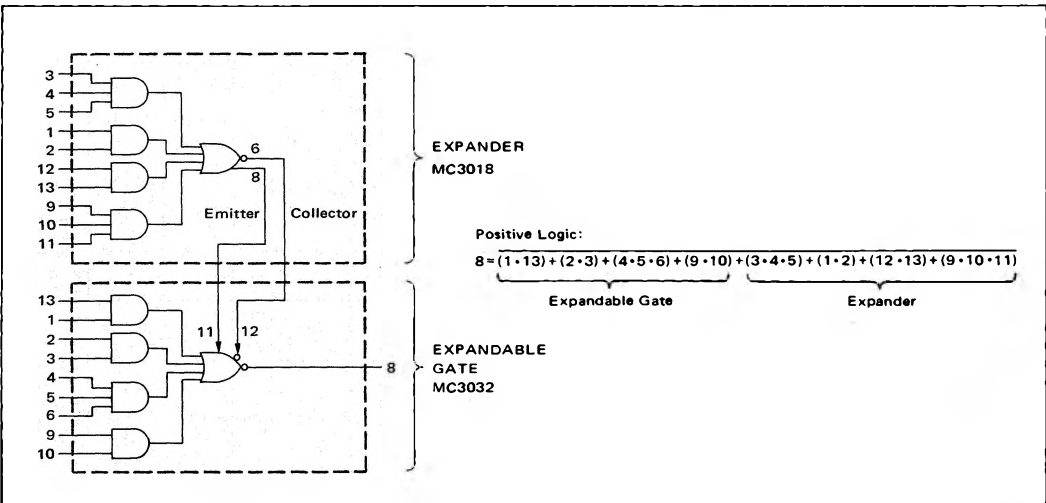
$\Delta t_{pd0/pF} = +0.04$  ns/pF typ

Caused by additional capacitance at expansion points.

Pin numbers for the 54H62F/74H62F device are shown in the chart. These devices are available on special request.

DEVICE	PIN NUMBERS													
MC3118F,L/3018F,L,P	1	2	3	4	5	6	7	8	9	10	11	12	13	14
54H62F/74H62F	2	3	13	14	1	10	11	12	7	8	9	5	6	4

**APPLICATION: EXPANDABLE 4-WIDE 2-2-3-2-INPUT AND-OR-INVERT GATE WITH A 4 WIDE 3-2-2-3 INPUT EXPANDER CONNECTED**

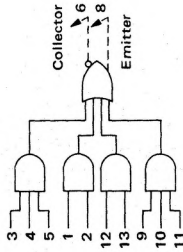


See General Information section for packaging.

# MC3118, MC3018 (continued)

## ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one input of the expander being tested. To complete testing, sequence through remaining inputs.



Characteristic	Symbol	Pin Under Test	TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:												TEST CURRENT/VOLTAGE VALUES																
			MC3118 Test Limits						MC3018 Test Limits						mA						Volts										
			-55°C		+25°C		+125°C		0°C		+25°C		+75°C		I <sub>OL</sub>	I <sub>in</sub>	I <sub>b</sub>	V <sub>R</sub>	V <sub>RH</sub>	V <sub>F</sub>	V <sub>EE1</sub>	V <sub>EE2</sub>	V <sub>IH</sub>	V <sub>IL</sub>	V <sub>max</sub>	V <sub>CC</sub>	V <sub>CCL</sub>	V <sub>CCH</sub>			
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Unit	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
<b>Input</b>																															
Forward Current	I <sub>F</sub>	1	-2.0	-	-2.0	-	-2.0	-	-2.0	-	-2.0	-	-2.0	mAdc	-	-	2	1	-	-	-	-	-	-	-	-	-	-	14	7*	
Leakage Current	I <sub>R</sub>	1	-	50	-	50	-	50	-	50	-	50	μAdc	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	14	2,7*	
Breakdown Voltage	BV <sub>in</sub>	1	-	-	-	-	-	-	-	-	-	-	Vdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	2,7*	
Clamp Voltage	V <sub>D</sub>	1	-	-	-	-	-	-	-	-	-	-	Vdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7*	-	
<b>Output</b>																															
Output Voltage	V <sub>OL**</sub>	6	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	Vdc	-	-	-	-	-	8	-	1.2	-	-	-	14†	14†	-	-	7*	-	
Emitter Current	I <sub>EO</sub>	8	-470	-	-470	-	-600	-	-600	-	-600	-	μAdc	-	-	-	-	-	8	-	1.2	-	-	-	14	-	-	-	7*	-	
Collector Current	I <sub>CO††</sub>	6	-	320	-	-	-	-	-	-	-	-	μAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	
<b>Power Requirements (Total Device)</b>																															
Maximum Power Supply Current	I <sub>max</sub>	14	-	-	-	-	-	-	-	-	-	-	mAdc	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	14	-	1,2,3,4,5,7 9,10,12,13
Power Supply Drain	I <sub>DDL</sub>	14	-	7.0	-	7.0	-	7.0	-	7.0	-	7.0	mAdc	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	7	-
		14	-	9.0	-	9.0	-	9.0	-	9.0	-	9.0	mAdc	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	14	1,2,3,4,5,7 9,10,12,13

\*Ground inputs to gates not under test.

† Apply to pin 14: @ Low temp. V<sub>CCL</sub>; @ 25°C V<sub>CC</sub>; @ Hi temp V<sub>CCH</sub>

†† Connect 575 Ω resistor from Pin 8 to ground.

\*\*This test is a measure of potential difference between pins 6 & 8.