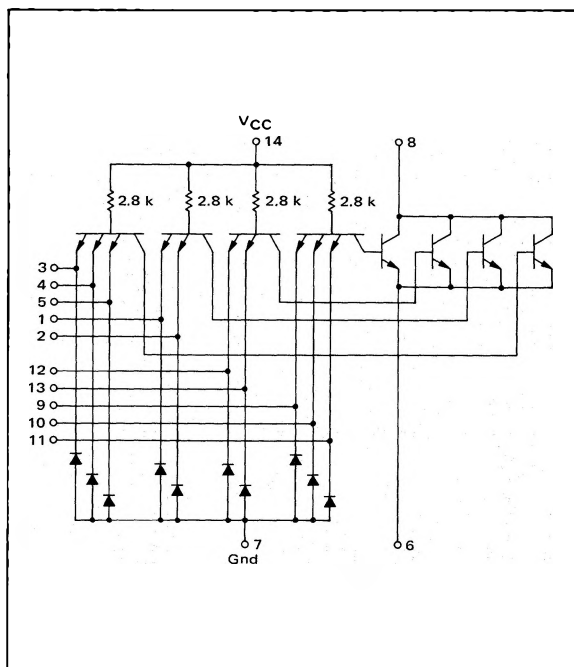


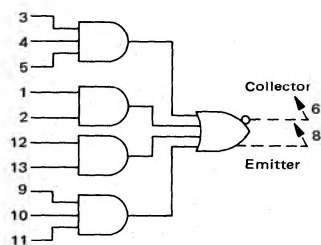
4-WIDE
3-2-2-3 INPUT EXPANDER FOR
"AND-OR-INVERT" GATES

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:

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

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

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

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

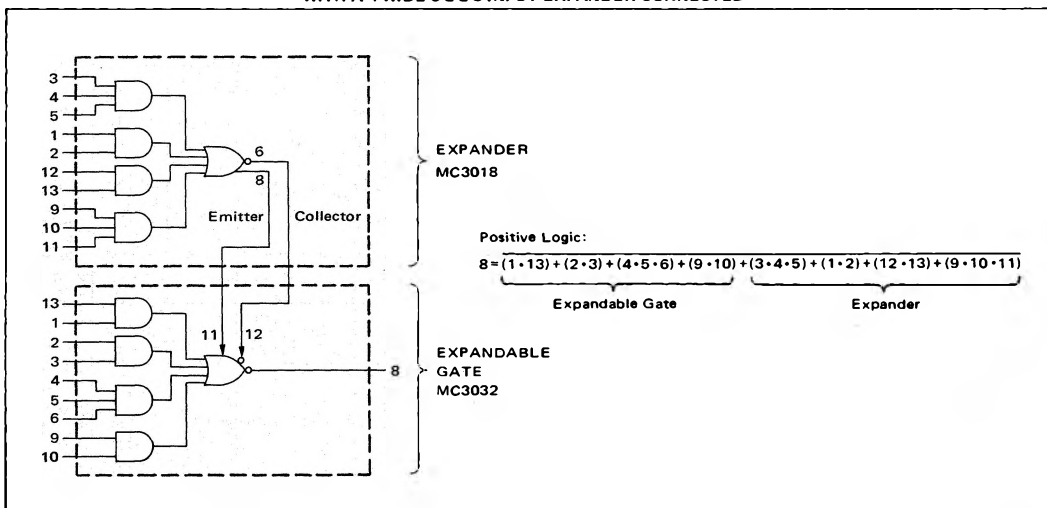
$\Delta t_{pd0/pF} = +0.04 \text{ ns/pF typ}$

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

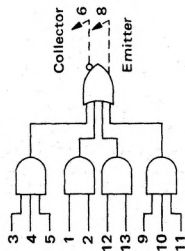
APPLICATION: EXPANDABLE 4-WIDE 2-2-3-2-INPUT AND-OR-INVERT GATE
WITH A 4 WIDE 3-2-2-3 INPUT EXPANDER CONNECTED



See General Information section for packaging.

ELECTRICAL CHARACTERISTICS

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



TEST CURRENT/VOLTAGE VALUES																																
Characteristic	Symbol	Pin Under Test	MC3018 Test Limits						MC3018 Test Limits						TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:																	
			-55°C			+25°C			+125°C			0°C			+25°C			+75°C			TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:											
			Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	Min	Max	Unit	I _{OL}	I _{in}	I _b	V _R	V _{RH}	V _F	V _{EE1}	V _{EE2}	V _{IH}	V _{IL}	V _{max}	V _{CC}	V _{VCL}	V _{CCH}	
Forward Current	I _F	1	-	-2.0	-	-2.0	-	-2.0	-	-2.0	-	-2.0	-	-2.0	-	-2.0	mAdc	-	-	-	-	2	1	-	-	-	-	-	-	14		
Leakage Current	I _R	1	-	50	-	50	-	50	-	50	-	50	-	50	-	50	μAdc	-	-	1	-	-	-	-	-	-	-	-	-	14		
Breakdown Voltage	BV _{in}	1	-	-	-	5.5	-	-	-	-	-	5.5	-	-	-	Vdc	-	-	1	-	-	-	-	-	-	-	-	-	-	14		
Clamp Voltage	V _D	1	-	-	-	-1.5	-	-	-	-	-	-1.5	-	-	-	Vdc	-	-	1	-	-	-	-	-	-	-	-	-	-	14		
Output																																
Output Voltage	V _{OL} **	6	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	0.4	-	Vdc	-	-	6	-	-	-	8	-	1.2	-	-	14†	14†	14†	7*	
Emitter Current	I _{EO}	8	-470	-	-470	-	-470	-	-600	-	-600	-	-600	-	-600	-	μAdc	-	-	-	-	-	8	-	1.2	-	-	-	-	-	7*	
Collector Current	I _{CO} ††	6	-	320	-	-	-	-	570	-	-	-	-	-	-	μAdc	-	-	-	-	-	-	-	-	-	1.3, 9, 12	-	-	6.14	-	7	
Power Requirements (Total Device)																																
Maximum Power	I _{max}	14	-	-	-	8.0	-	-	-	-	-	8.0	-	-	-	mAdc	-	-	-	-	-	-	8	-	-	-	-	-	-	-	1.2, 3.4, 5.7, 9.10, 12.13	
Supply Current	I _{PDH}	14	-	7.0	-	7.0	-	7.0	-	7.0	-	7.0	-	7.0	-	mAdc	-	-	-	-	-	-	-	8	-	-	-	-	-	-	14	7
Power Supply Drain	I _{PDL}	14	-	9.0	-	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. $V_{CC'L}$ @ 25°C V_{CC} @ Hi temp V_{CCH}

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

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