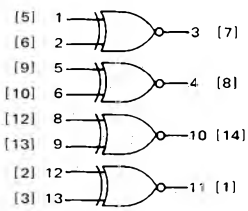
QUAD EXCLUSIVE
"NOR" GATE
(Open Collector)

MC8242F, L*
MC7242F, L, P*

ADVANCE INFORMATION/NEW PRODUCT



$3 = \overline{1} \cdot \overline{2} + 1 \cdot 2$

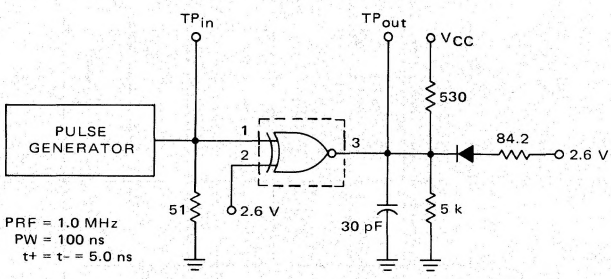
V_{CC} = Pin 14 [4]
GND = Pin 7 [11]

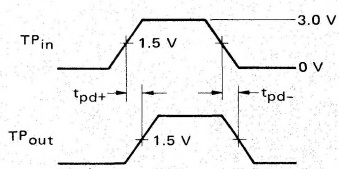
Numbers at ends of terminals represent pin numbers for devices in the dual in-line package.
Numbers in brackets represent pin numbers for devices in the flat package.

This device contains four independent Exclusive NOR gates with open collector outputs which may be used to implement digital comparison functions. A four-bit comparison may be made by connecting the outputs together.

Input Loading Factor = 2
Output Loading Factor = 10
Total Power Dissipation = 170 mW typ/pkg

SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



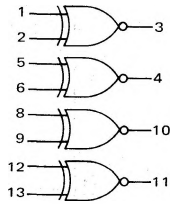


5 kΩ and 30 pF include jig and scope.

*F suffix = TO-86 ceramic flat package (Case 607).
L suffix = TO-116 ceramic dual in-line package (Case 632).
P suffix = TO-116 plastic dual in-line package (Case 605).

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one gate. The other gates are tested in the same manner. Pin numbers indicated are for devices in dual in-line packages only. To test devices in the flat package, substitute pin numbers shown in brackets on the logic diagram on the first page of this data sheet.



	@ Test Temperature	TEST CURRENT/VOLTAGE VALUE mA I_{OL}	mA I_{in}	Volts V_{IL}	Volts V_{IH}	Volts V_F	Volts V_R	Volts V_{CC}	Volts V_{CCL}	Volts V_{CCH}
MC8242	-55°C	25	–	0.8	2.0	0.4	4.5	5.0	4.75	5.25
	+25°C	25	10	0.8	2.0	0.4	4.5	5.0	4.75	5.25
	+125°C	25	–	0.8	2.0	0.4	4.5	5.0	4.75	5.25
MC7242	0°C	25	–	0.8	2.0	0.4	4.5	5.0	4.75	5.25
	+25°C	25	10	0.8	2.0	0.4	4.5	5.0	4.75	5.25
	+75°C	25	–	0.8	2.0	0.4	4.5	5.0	4.75	5.25

Characteristic	Symbol	Pin Under Test	MC8242 Test Limits -55°C Min	-55°C Max	+25°C Min	+25°C Max	+125°C Min	+125°C Max	Unit	MC7242 Test Limits 0°C Min	0°C Max	+25°C Min	+25°C Max	+75°C Min	+75°C Max	Unit	TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW: I_{OL}	I_{in}	V_{IL}	V_{IH}	V_F	V_R	V_{CC}	V_{CCL}	V_{CCH}	Gnd
Input																										
Forward Current	I_F	1	-0.1	-3.2	-0.1	-3.2	-0.1	-3.2	mAdc	-0.1	-3.2	-0.1	-3.2	-0.1	-3.2	mAdc	–	–	–	–	1	2	–	–	14	7
		2	-0.1	-3.2	-0.1	-3.2	-0.1	-3.2	mAdc	-0.1	-3.2	-0.1	-3.2	-0.1	-3.2	mAdc	–	–	–	–	2	1	–	–	14	7
Leakage Current	I_R	1	–	50	–	50	–	50	μAdc	–	50	–	50	–	50	μAdc	–	–	–	–	–	1	14	–	–	2,7
		2	–	50	–	50	–	50	μAdc	–	50	–	50	–	–	μAdc	–	–	–	–	–	2	14	–	–	1,7
Breakdown Voltage	BV_{in}	1	–	–	6.0	–	–	–	Vdc	–	–	6.0	–	–	–	Vdc	–	1	–	–	–	–	14	–	–	2,7
		2	–	–	6.0	–	–	–	Vdc	–	–	6.0	–	–	–	Vdc	–	2	–	–	–	–	14	–	–	1,7
Output																										
Output Voltage	V_{OL}	3	–	0.4	–	–	–	0.4	Vdc	–	0.4	–	–	–	0.4	Vdc	3	–	1	2	–	–	–	14	–	7
		3	–	–	–	0.4	–	–	Vdc	–	–	–	0.4	–	–	Vdc	3	–	2	1	–	–	–	14	–	7
Leakage Current	I_{OLK}	3	–	–	–	25	–	25	μAdc	–	–	–	25	–	25	μAdc	–	–	–	1,2	–	–	3,14	–	–	7
Power Requirements (Total Device)																										
Power Supply Drain	I_{PD}	14	–	–	–	48	–	–	mAdc	–	–	–	48	–	–	mAdc	–	–	–	–	1,5,8,12	2,6,9,13	–	–	14	7
Switching Parameters					Typ	Max						Typ	Max				Pulse In		Pulse Out		V_{IHX} = 2.6 V					
Turn-On Delay	t_{pd-}	3	–	–	18	–	–	–	ns	–	–	18	–	–	–	ns	1		3		2		–	–	14	7
Turn-Off Delay	t_{pd+}	3	–	–	18	–	–	–	ns	–	–	18	–	–	–	ns	1		3		2		–	–	14	7