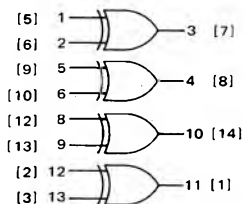


QUAD EXCLUSIVE "OR" GATE

MC8200/MC7200 series

**MC8241F, L\***  
**MC7241F, L, P\***

ADVANCE INFORMATION/NEW PRODUCT



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

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

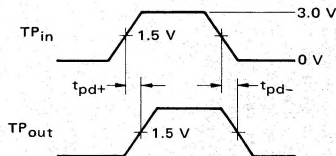
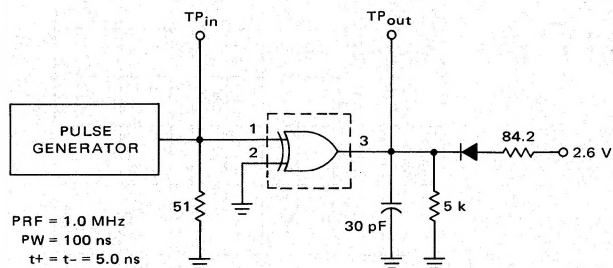
Numbers at ends of terminals represent pin numbers for devices in the dual in-line package.

Numbers in brackets represent pin numbers for devices in the flat package.

This device contains two independent gating structures to perform the Exclusive OR function on two input variables. The output employs the totem-pole structure.

Input Loading Factor = 2  
 Output Loading Factor = 10  
 Total Power Dissipation = 225 mW typ/pkg

SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



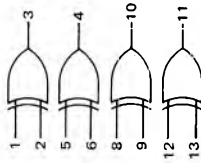
5 kΩ and 30 pF include jig and scope.

\*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).

# MC8241F,L, MC7241F,L,P (continued)

## 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.



Characteristic	Symbol	Pin Under Test	TEST CURRENT/VOLTAGE VALUE											
			mA						Volts					
			I <sub>OL</sub>	I <sub>OH</sub>	I <sub>in</sub>	V <sub>IL</sub>	V <sub>IH</sub>	V <sub>F</sub>	V <sub>R</sub>	V <sub>CC</sub>	V <sub>CLL</sub>	V <sub>CCH</sub>		
Input Forward Current	I <sub>F</sub>	1 2	-0.1 -0.1	-3.2 -3.2	-0.1 -0.1	-3.2 -3.2	0.8 0.8	2.0 2.0	0.4 0.4	4.5 4.5	5.0 5.0	4.75 4.75	5.25 5.25	
Leakage Current	I <sub>R</sub>	1 2	-	50 50	-	50 50	0.8 0.8	2.0 2.0	0.4 0.4	4.5 4.5	5.0 5.0	4.75 4.75	5.25 5.25	
Breakdown Voltage	BV <sub>in</sub>	1 2	-	6.0 6.0	-	6.0 6.0	1 1	-	-	-	14 14	-	2.7 1.7	
Output Output Voltage	V <sub>OL</sub> V <sub>OH</sub>	3 3	2.6 2.6	2.8 2.8	2.6 2.6	2.6 2.6	1 2	1 2	-	-	14 14	-	7 7	
Short Circuit Current	I <sub>SC</sub>	3	-	-20	-	-20	-	-	-	-	14	-	2.3,7	
Power Requirements Total Device Power Supply Drain	I <sub>PD</sub>	14	-	-	-	57	-	-	-	-	-	-	14 1.6,7,8,13	
Switching Parameters Turn-On Delay	t <sub>pd-</sub>	3	-	-	10	-	-	-	-	-	14	-	2.7	
Turn-Off Delay	t <sub>pd+</sub>	3	-	-	10	-	-	-	-	-	14	-	2.7	

Characteristic	Symbol	Pin Under Test	MC8241 Test Limits						MC7241 Test Limits						
			-55°C		+25°C		+125°C		0°C		+25°C		+75°C		
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Unit
Input Forward Current	I <sub>F</sub>	1 2	-0.1 -0.1	-3.2 -3.2	-0.1 -0.1	-3.2 -3.2	-0.1 -0.1	-3.2 -3.2	-0.1 -0.1	-3.2 -3.2	-0.1 -0.1	-3.2 -3.2	-0.1 -0.1	-3.2 -3.2	mAdc
Leakage Current	I <sub>R</sub>	1 2	-	50 50	-	50 50	-	50 50	-	50 50	-	50 50	-	50 50	µAdc
Breakdown Voltage	BV <sub>in</sub>	1 2	-	6.0 6.0	-	6.0 6.0	-	6.0 6.0	-	6.0 6.0	-	6.0 6.0	-	6.0 6.0	Vdc
Output Output Voltage	V <sub>OL</sub> V <sub>OH</sub>	3 3	2.6 2.6	2.8 2.8	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	Vdc
Short Circuit Current	I <sub>SC</sub>	3	-	-20	-	-20	-	-20	-	-20	-	-20	-	-20	mAdc
Power Requirements Total Device Power Supply Drain	I <sub>PD</sub>	14	-	-	-	57	-	-	-	57	-	-	-	-	mAdc
Switching Parameters Turn-On Delay	t <sub>pd-</sub>	3	-	-	10	-	-	-	10	-	-	-	-	-	ns
Turn-Off Delay	t <sub>pd+</sub>	3	-	-	10	-	-	-	10	-	-	-	-	-	ns