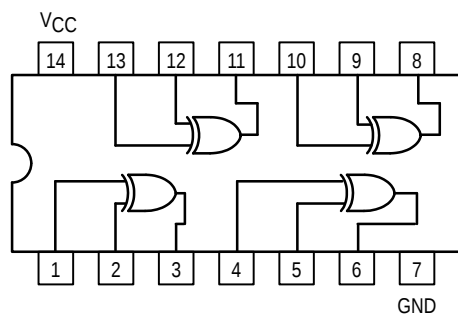


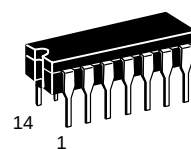


QUAD 2-INPUT EXCLUSIVE-OR GATE

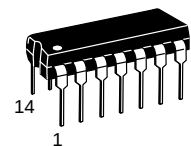


MC54/74F86

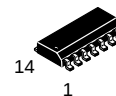
**QUAD 2-INPUT
EXCLUSIVE-OR GATE
FAST™ SCHOTTKY TTL**



**J SUFFIX
CERAMIC
CASE 632-08**



**N SUFFIX
PLASTIC
CASE 646-06**



**D SUFFIX
SOIC
CASE 751A-02**

ORDERING INFORMATION

MC54FXXJ	Ceramic
MC74FXXN	Plastic
MC74FXXD	SOIC

GUARANTEED OPERATING RANGES

Symbol	Parameter		Min	Typ	Max	Unit
V_{CC}	Supply Voltage	54, 74	4.5	5.0	5.5	V
T_A	Operating Ambient Temperature Range	54	-55	25	125	°C
		74	0	25	70	
I_{OH}	Output Current — High	54, 74			-1.0	mA
I_{OL}	Output Current — Low	54, 74			20	mA

MC54/74F86

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter	Limits			Unit	Test Conditions	
		Min	Typ	Max			
V_{IH}	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage	
V_{IL}	Input LOW Voltage			0.8	V	Guaranteed Input LOW Voltage	
V_{IK}	Input Clamp Diode Voltage			-1.2	V	$V_{CC} = \text{MIN}$, $I_{IN} = -18 \text{ mA}$	
V_{OH}	Output HIGH Voltage	54, 74	2.5	3.4	V	$I_{OH} = -1.0 \text{ mA}$	$V_{CC} = 4.50 \text{ V}$
		74	2.7	3.4	V	$I_{OH} = -1.0 \text{ mA}$	$V_{CC} = 4.75 \text{ V}$
V_{OL}	Output LOW Voltage		0.35	0.5	V	$I_{OL} = 20 \text{ mA}$	$V_{CC} = \text{MIN}$
I_{IH}	Input HIGH Current			20	μA	$V_{CC} = \text{MAX}$, $V_{IN} = 2.7 \text{ V}$	
				100	μA	$V_{CC} = \text{MAX}$, $V_{IN} = 7.0 \text{ V}$	
I_{IL}	Input LOW Current			-0.6	mA	$V_{CC} = \text{MAX}$, $V_{IN} = 0.5 \text{ V}$	
I_{OS}	Output Short Circuit Current (Note 2)	-60		-150	mA	$V_{CC} = \text{MAX}$, $V_{OUT} = 0 \text{ V}$	
I_{CC}	Power Supply Current		15	23	mA	1-Input HIGH 1-Input LOW	$V_{CC} = \text{MAX}$
			18	28		Inputs LOW	

NOTES:

- For conditions shown as MIN or MAX, use the appropriate value specified under guaranteed operating ranges.
- Not more than one output should be shorted at a time, nor for more than 1 second.

AC CHARACTERISTICS

Symbol	Parameter	54/74F			54F		74F		Unit
		T _A = +25°C			T _A = -55°C to +125°C		T _A = 0°C to 70°C		
		V _{CC} = +5.0 V			V _{CC} = 5.0 V ± 10%		V _{CC} = 5.0 V ± 10%		
		C _L = 50 pF			C _L = 50 pF		C _L = 50 pF		
		Min	Typ	Max	Min	Max	Min	Max	
t _{PLH}	Propagation Delay	3.0	4.0	5.5	2.5	7.0	3.0	6.5	ns
t _{PHL}	(Other Input LOW)	3.0	4.2	5.5	3.0	7.0	3.0	6.5	
t _{PLH}	Propagation Delay	3.5	5.3	7.0	3.5	8.5	3.5	8.0	ns
t _{PHL}	(Other Input HIGH)	3.0	4.7	6.5	3.0	8.0	3.0	7.5	