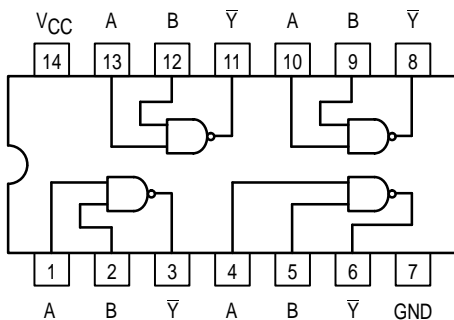


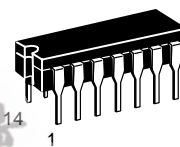


# QUAD 2-INPUT NAND BUFFER

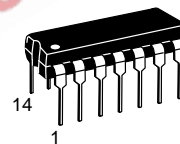


**MC74F37**

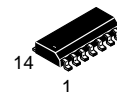
**QUAD 2-INPUT  
NAND BUFFER**  
**FAST™ SCHOTTKY TTL**



**J SUFFIX**  
CERAMIC  
CASE 632-08



**N SUFFIX**  
PLASTIC  
CASE 646-06



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

**ORDERING INFORMATION**

MC74FXXJ Ceramic  
MC74FXXN Plastic  
MC74FXXD SOIC

**GUARANTEED OPERATING RANGES**

Symbol	Parameter	74	Min	Typ	Max	Unit
VCC	Supply Voltage	74	4.5	5.0	5.5	V
T <sub>A</sub>	Operating Ambient Temperature Range	74	0	25	70	°C
I <sub>OH</sub>	Output Current — High	74			-15	mA
I <sub>OL</sub>	Output Current — Low	74			64	mA

# MC74F37

## DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter	Limits			Unit	Test Conditions	
		Min	Typ	Max			
V <sub>IH</sub>	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage	
V <sub>IL</sub>	Input LOW Voltage			0.8	V	Guaranteed Input LOW Voltage	
V <sub>IK</sub>	Input Clamp Diode Voltage			-1.2	V	V <sub>CC</sub> = MIN, I <sub>IN</sub> = -18 mA	
V <sub>OH</sub>	Output HIGH Voltage	74	2.0		V	I <sub>OH</sub> = -15 mA	V <sub>CC</sub> = 4.50 V
		74	2.4		V	I <sub>OH</sub> = -1.0 mA	
		74	2.7		V	I <sub>OH</sub> = -1.0 mA	V <sub>CC</sub> = 4.75 V
V <sub>OL</sub>	Output LOW Voltage			0.55	V	I <sub>OL</sub> = 64 mA	V <sub>CC</sub> = MIN
I <sub>IH</sub>	Input HIGH Current			20	μA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = 2.7 V	
				0.1	mA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = 7.0 V	
I <sub>IL</sub>	Input LOW Current			-1.2	mA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = 0.5 V	
I <sub>OS</sub>	Output Short Circuit Current (Note 2)	-100		-225	mA	V <sub>CC</sub> = MAX, V <sub>OUT</sub> = 0 V	
I <sub>CC</sub>	Power Supply Current Total, Output HIGH			6	mA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = GND	
	Total, Output LOW			33	mA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = Open	

### NOTES:

1. For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.
2. Not more than one output should be shorted at a time, nor for more than 1 second.

## AC CHARACTERISTICS

Symbol	Parameter	74F		74F		Unit
		T <sub>A</sub> = +25°C		T <sub>A</sub> = 0°C to 70°C		
		V <sub>CC</sub> = +5.0 V		V <sub>CC</sub> = 5.0 V ± 10%		
		C <sub>L</sub> = 50 pF		C <sub>L</sub> = 50 pF		
		Min	Max	Min	Max	
t <sub>PLH</sub>	Propagation Delay	1.5	5.5	1.5	6.5	ns
t <sub>PHL</sub>	Propagation Delay	1.0	4.5	1.0	5.0	ns

## FUNCTION TABLE

Inputs		Output
A	B	$\bar{Y}$
L	L	H
L	H	H
H	L	H
H	H	L

H = HIGH Voltage Level

L = LOW Voltage Level

X = Don't Care