MOTOROLA

MC74F38

QUAD 2-INPUT NAND BUFFER, OPEN COLLECTOR

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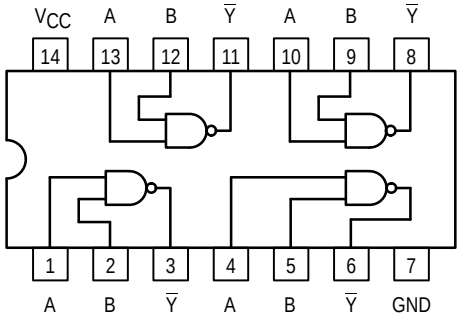
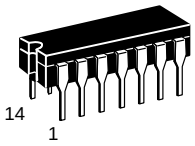
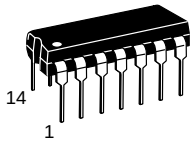
FAST™ SCHOTTKY TTL

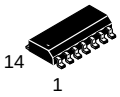




J SUFFIX
CERAMIC
CASE 632-08



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		Min	Typ	Max	Unit
V_{CC}	Supply Voltage	74	4.5	5.0	5.5	V
T_A	Operating Ambient Temperature Range	74	0	25	70	°C
I_{OL}	Output Current — Low	74			64	mA

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} = MIN, I_{IN} = –18 mA	
V_{OL}	Output LOW Voltage			0.55	V	I_{OL} = 64 mA	V_{CC} = MIN
I_{IH}	Input HIGH Current			20	μA	V_{CC} = MAX, V_{IN} = 2.7 V	
				0.1	mA	V_{CC} = MAX, V_{IN} = 7.0 V	
I_{IL}	Input LOW Current			–1.2	mA	V_{CC} = MAX, V_{IN} = 0.5 V	
I_{OH}	Output HIGH Current			250	μA	V_{CC} = MIN, V_{IL} = MAX V_{IH} = MIN, V_{OH} = MAX	
I_{CC}	Power Supply Current Total, Output HIGH			7.0	mA	V_{CC} = MAX, V_{IN} = GND	
	Total, Output LOW			30	mA	V_{CC} = MAX, V_{IN} = Open	

NOTES:
1. For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

AC CHARACTERISTICS

Symbol	Parameter	74F T_A = +25°C V_{CC} = +5.0 V C_L = 50 pF		74F T_A = 0°C to 70°C V_{CC} = 5.0 V ± 10% C_L = 50 pF		Unit
		Min	Max	Min	Max	
t_{PLH}	Propagation Delay	7.5	12.5	7.5	13	ns
t_{PHL}	Propagation Delay	1.0	5.0	1.0	5.5	ns

FUNCTION TABLE

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

H = HIGH Voltage Level
L = LOW Voltage Level
X = Don't Care