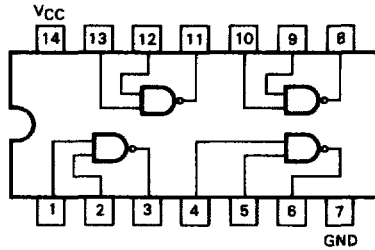




MC54F/74F00

QUAD 2-INPUT NAND GATE



J Suffix — Case 632-08 (Ceramic)
 N Suffix — Case 646-06 (Plastic)
 D Suffix — Case 751A-02 (SOIC)

QUAD 2-INPUT NAND GATE
 FAST™ SCHOTTKY TTL

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 74	-55 0	25 25	125 70	°C
I _{OH}	Output Current — High	54, 74			-1.0	mA
I _{OL}	Output Current — Low	54, 74			20	mA

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER	LIMITS			UNITS	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 _{OH}	Output HIGH Voltage	54, 74	2.5		V	I _{OH} = -1.0 mA, V _{CC} = 4.50 V
		74	2.7		V	I _{OH} = -1.0 mA, V _{CC} = 4.75 V
V _{OL}	Output LOW Voltage			0.5	V	I _{OL} = 20 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			-0.6	mA	V _{CC} = MAX, V _{IN} = 0.5 V
I _{OS}	Output Short Circuit Current (Note 2)	-60		-150	mA	V _{CC} = MAX, V _{OUT} = 0 V
I _{CC}	Power Supply Current Total, Output HIGH			2.8	mA	V _{CC} = MAX, V _{IN} = GND
	Total, Output LOW			10.2	mA	V _{CC} = MAX, V _{IN} = Open

NOTES:

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

MC54F00/74F00

AC CHARACTERISTICS

SYMBOL	PARAMETER	54/74F T _A = +25°C V _{CC} = +5.0 V C _L = 50 pF		54F T _A = -55°C to +125°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		74F T _A = 0°C to 70°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
t _{PLH}	Propagation Delay	2.4	5.0	2.0	7.0	2.4	6.0	ns
t _{PHL}	Propagation Delay	1.5	4.3	1.5	6.5	1.5	5.3	ns

AC TEST CIRCUIT

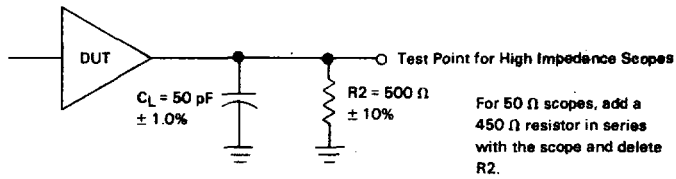


Fig. 1