

# TYPES SN5440, SN54H40, SN54LS40, SN54S40, SN7440, SN74H40, SN74LS40, SN74S40 DUAL 4-INPUT POSITIVE-NAND BUFFERS

REVISED APRIL 1985

- Package Options Include Both Plastic and Ceramic Chip Carriers in Addition to Plastic and Ceramic DIPs
- Dependable Texas Instruments Quality and Reliability

## description

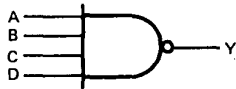
These devices contain two independent 4-input NAND buffer gates.

The SN5440, SN54H40, SN54LS40, and SN54S40 are characterized for operation over the full military temperature range of  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . The SN7440, SN74H40, SN74LS40, and SN74S40 are characterized for operation from  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

FUNCTION TABLE (each gate)

INPUTS				OUTPUT
A	B	C	D	Y
H	H	H	H	L
L	X	X	X	H
X	L	X	X	H
X	X	L	X	H
X	X	X	L	H

## logic diagram (each gate)

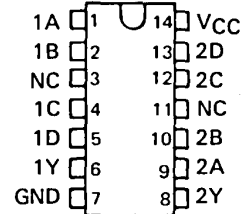


## positive logic

$$Y = \overline{A \cdot B \cdot C \cdot D} \text{ or } Y = \overline{A + B + C + D}$$

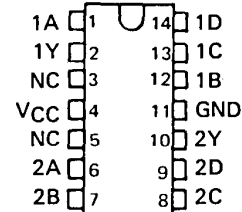
SN5440, SN54H40 ... J PACKAGE  
SN54LS40, SN54S40 ... J OR W PACKAGE  
SN7440, SN74H40 ... J OR N PACKAGE  
SN74LS40, SN74S40 ... D, J OR N PACKAGE

(TOP VIEW)



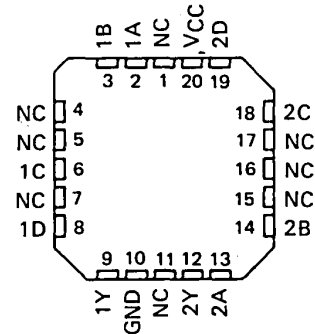
SN5440, SN54H40 ... W PACKAGE

(TOP VIEW)



SN54LS40, SN54S40 ... FK PACKAGE  
SN74LS40, SN74S40 ... FN PACKAGE

(TOP VIEW)



NC - No internal connection

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TTL DEVICES

## PRODUCTION DATA

This document contains information current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

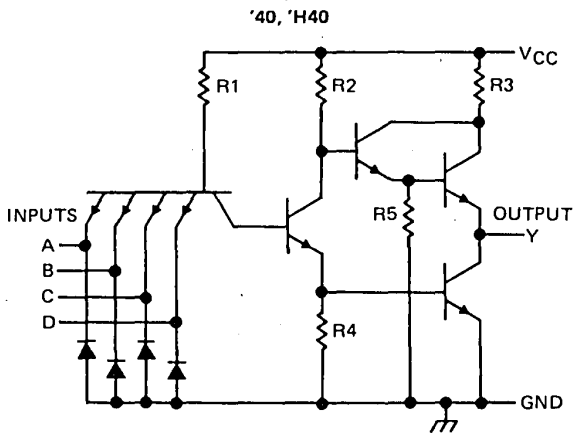
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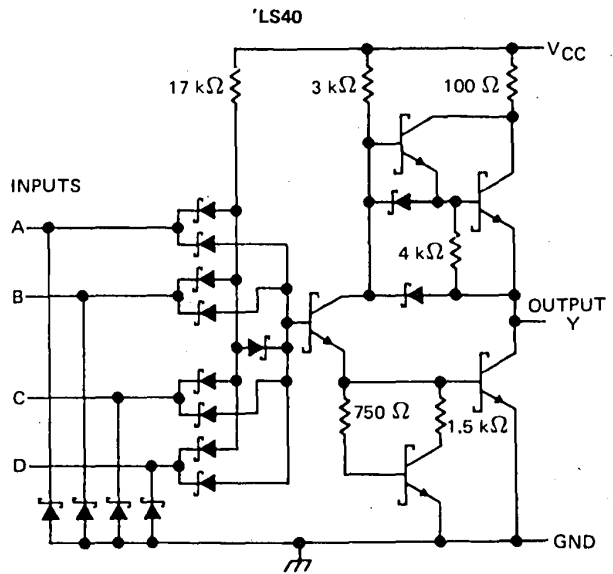
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**TYPES SN5440, SN54H40, SN54LS40, SN54S40,  
SN7440, SN74H40, SN74LS40, SN74S40  
DUAL 4-INPUT POSITIVE-NAND BUFFERS**

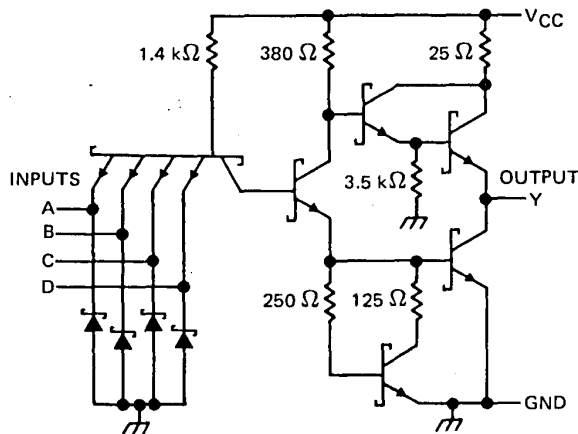
schematics (each gate)



CIRCUIT	R1	R2	R3	R4	R5
'40	4 k $\Omega$	600 $\Omega$	100 $\Omega$	400 $\Omega$	4 k $\Omega$
'H40	1.4 k $\Omega$	390 $\Omega$	45 $\Omega$	250 $\Omega$	2 k $\Omega$



'S40



Resistor values shown are nominal.

**absolute maximum ratings over operating free-air temperature range (unless otherwise noted)**

Supply voltage, $V_{CC}$ (see Note 1)	7 V
Input voltage: '40, 'H40, 'S40	5.5 V
'LS40	7 V
Operating free-air temperature: SN54'	-55°C to 125°C
SN74'	0°C to 70°C
Storage temperature range	-65°C to 150°C

NOTE 1: Voltage values are with respect to network ground terminal.