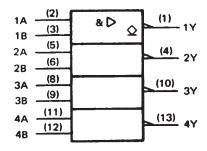
- Current Sinking Capability up to 80 mA
- Guaranteed Fan-Out of 30 Series 54/74 Loads
- Dependable Texas Instruments Quality and Reliability

description

These devices contain four independent 2-input NAND buffers. The open-collector outputs require pull-up resistors to perform correctly. They may be connected to other open-collector outputs to implement active-low wired-OR or active-high wired-AND functions. Open-collector devices are often used to generate higher VOH levels.

The SN5439 is characterized for operation over the full military temperature range of -55°C to 125°C . The SN7439 is characterized for operation from 0°C to 70°C .

logic symbol[†]

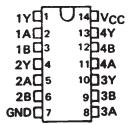


[†] This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

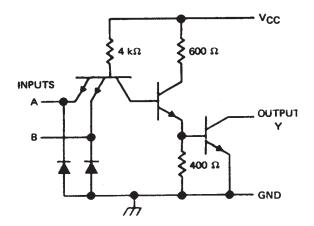
FUNCTION TABLE (each gate)

INP	UTS	OUTPUT
Α	В	Y
Н	Н	L
L	X	н
×	L	н

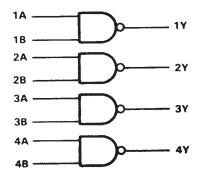
SN5439 ... J PACKAGE SN7439 ... N PACKAGE (TOP VIEW)



schematics (each gate)



logic diagram



positive logic

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

SN5439, SN7439 **QUADRUPLE 2-INPUT POSITIVE-NAND BUFFERS** WITH OPEN-COLLECTOR OUTPUTS

SDLS106 - MAY 1983 - REVISED MARCH 1988

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

Supply voltage, VCC (see Note 1)	7V
Input voltage	
Off-state output voltage	
Operating free-air temperature range: SN5439	-55°C to 125°C
SN7439	0°C to 70°C
Storage temperature range	-65°C to 150°C

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

recommended operating conditions

		SN5439				T		
		MIN	NOM	MAX	MIN	NOM	MAX	UNIT
Vcc	Supply voltage	4.5	5	5.5	4.5	5	5.5	V
V_{IH}	High-level input voltage	2			2			V
VIL	Low-level input voltage			0.8			0.8	V
VOH	High-level output voltage			5.5			5.5	V
IOL Low-level output voltage	Low-level output voltage			60			60	
							80†	mA
T_A	Operating free-air temperature	-55		125	0		70	°c

 $^{^{\}dagger}\text{The extended limit applies only if V}_{\text{CC}}$ is maintained between 4.75 and 5.25 V.

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	SN5439			SN7439				
	TEST CONDITIONS.	MIN	TYP	MAX	MIN	TYP	MAX	UNIT	
VIK	$V_{CC} = MIN$, $I_{I} = -12 \text{ mA}$		·	-1.5			- 1.5	V	
ЮН	$V_{CC} = MIN$, $V_{IL} = 0.8 \text{ V}$, $V_{OH} = 5.5 \text{ V}$						0.25		
	$V_{CC} = MIN$, $V_{IL} = 0.7 \text{ V}$, $V_{OH} = 5.5 \text{ V}$			0.25				mA	
V _{OL}	V _{CC} = MIN, I _{OL} = 48 mA			0.4			0.4		
	V _{CC} = MIN, I _{OL} = 60 mA			0.5			0.5	7 v	
	V _{CC} = 4.75 V, I _{OL} = 80 mA						0.6	1	
lį .	$V_{CC} = MAX$, $V_I = 5.5 V$			1			1	mA	
Чн	$V_{CC} = MAX$, $V_I = 2.4 V$			40			40	μΑ	
IIL	$V_{CC} = MAX$, $V_{I} = 0.4 V$			-1.6			-1.6	mA	
Іссн	$V_{CC} = MAX, V_I = 0$			54			54	mA	

[†]For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

switching characteristics, $V_{CC} = 5 \text{ V}$, $T_A = 25^{\circ}\text{C}$ (see note 2)

PARAMETER	FROM	то	TEST CONDITIONS		TEST CONDITIONS		SN5	439	SN7	439	UNIT
	(INPUT)	(OUTPUT)			MIN	MAX	MIN	MAX	ONT		
^t PLH	A or B	Υ	$R_1 = 133 \Omega_r$	C _I = 45 pF		22		22	ns		
^t PHL				18		18	115				

NOTE 2: Load circuits and voltage waveforms are shown in Section 1.



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