

TYPES SN54ALS1035, SN74ALS1035 HEX NONINVERTING BUFFERS WITH OPEN-COLLECTOR OUTPUTS

D2661, APRIL 1982—REVISED DECEMBER 1983

- Noninverting Buffers with Open-Collector Outputs
- Package Options Include Both Plastic and Ceramic Chip Carriers in Addition to Plastic and Ceramic DIPs
- Dependable Texas Instruments Quality and Reliability

description

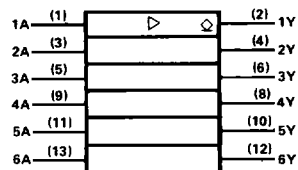
These devices contain six independent noninverting buffers. They perform the boolean functions $Y = A$. The open-collector outputs require pull-up resistors to perform correctly. They may be connected to other open-collector outputs to implement active-low wired-OR or active-high wired-AND functions. Open-collector devices are often used to generate higher V_{OH} levels.

The SN54ALS1035 is characterized for operation over the full military temperature range of -55°C to 125°C . The SN74ALS1035 is characterized for operation from 0°C to 70°C .

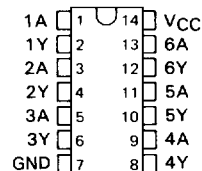
FUNCTION TABLE (each buffer)

INPUT A	OUTPUT Y
H	H
L	L

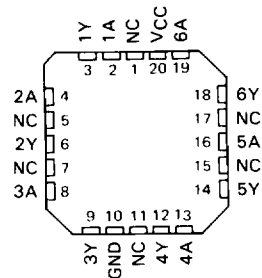
logic symbol



SN54ALS1035 . . . J PACKAGE
SN74ALS1035 . . . N PACKAGE
(TOP VIEW)



SN54ALS1035 . . . FH PACKAGE
SN74ALS1035 . . . FN PACKAGE
(TOP VIEW)



NC—No internal connection

Pin numbers shown are for J and N packages.

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TYPES SN54ALS1035, SN74ALS1035

HEX NONINVERTING BUFFERS WITH OPEN-COLLECTOR OUTPUTS

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

Supply voltage, V_{CC}	7 V
Input voltage	7 V
Off-state output voltage	7 V
Operating free-air temperature range: SN54ALS1035	-55 °C to 125 °C
SN74ALS1035	0 °C to 70 °C
Storage temperature range	-65 °C to 150 °C

recommended operating conditions

	SN54ALS1035			SN74ALS1035			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
V_{CC} Supply voltage	4.5	5	5.5	4.5	5	5.5	V
V_{IH} High-level input voltage	2			2			V
V_{IL} Low-level input voltage			0.8			0.8	V
V_{OH} High-level output voltage			5.5			5.5	V
I_{OL} Low-level output current			12			24	mA
T_A Operating free-air temperature	-55		125	0		70	°C

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ALS AND AS CIRCUITS

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

PARAMETER	TEST CONDITIONS	SN54ALS1035			SN74ALS1035			UNIT
		MIN	TYP [†]	MAX	MIN	TYP [†]	MAX	
V_{IK}	$V_{CC} = 4.5 \text{ V}$, $I_I = -18 \text{ mA}$			-1.5			-1.5	V
I_{OH}	$V_{CC} = 4.5 \text{ V}$, $V_{OH} = 5.5 \text{ V}$			0.1			0.1	mA
V_{OL}	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 12 \text{ mA}$		0.25	0.4		0.25	0.4	V
	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 24 \text{ mA}$					0.35	0.5	
I_I	$V_{CC} = 5.5 \text{ V}$, $V_I = 7 \text{ V}$			0.1			0.1	mA
I_{IH}	$V_{CC} = 5.5 \text{ V}$, $V_I = 2.7 \text{ V}$			20			20	μA
I_{IL}	$V_{CC} = 5.5 \text{ V}$, $V_I = 0.4 \text{ V}$			-0.1			-0.1	mA
I_{CCH}	$V_{CC} = 5.5 \text{ V}$, $V_I = 4.5 \text{ V}$		3	6		3	6	mA
I_{CCL}	$V_{CC} = 5.5 \text{ V}$, $V_I = 0 \text{ V}$		8	14		8	14	mA

[†]All typical values are at $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$.

switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$, $C_L = 50 \text{ pF}$, $R_L = 680 \Omega$, $T_A = \text{MIN to MAX}$				UNIT
			SN54ALS1035		SN74ALS1035		
			MIN	MAX	MIN	MAX	
t_{PLH}	A	Y	5	35	5	30	ns
t_{PHL}			2	14	2	12	

NOTE 1: For load circuit and voltage waveforms, see page 1-12.