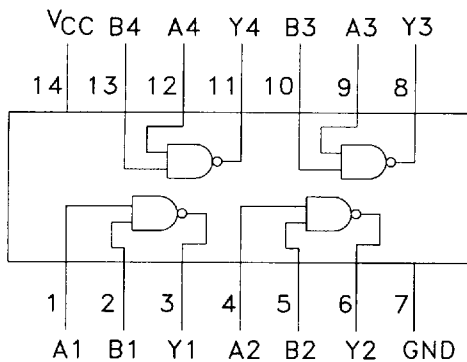
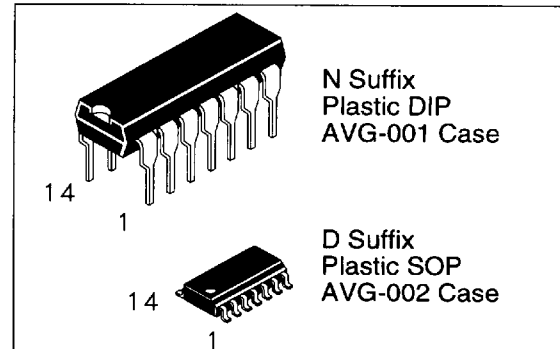


DV74ALS1003A**Quad 2-Input NAND Buffer with Open-Collector Outputs**

This device contains four independent 2-input open buffers, each of which performs the logic NAND function.

- AVG's ALS has guaranteed DC and AC specification over full temperature and Vcc range
- Switching specifications for ALS at 50 pF
- AVG's ALS has the lowest speed power product (4pJ per gate typical) of all logic series
- Higher speed and 24mA Output Drive



TRUTH TABLE
Y=AB

Inputs		Outputs
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

H = High Level Logic
L = Low Level Logic

ABSOLUTE MAXIMUM RATINGS

Maximum ratings are those values beyond which damage to the device may occur.

Symbol	Parameter	D74ALS1003A	Unit
V _{CC}	Supply Voltage	7.0	V
V _{IN}	Input Voltage	7.0	V
T _{STG}	Storage Temperature Range	-65 to +150	°C

GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	D74ALS1003A		Unit
		Min	Max	
V _{CC}	Supply Voltage	4.5	5.5	V
V _{IH}	High Level Input Voltage	2.0		V
V _{IL}	Low Level Input Voltage		0.8	V
V _{OH}	High Level Output Voltage		5.5	V
I _{OL}	Low Level Output Current		24	mA
T _A	Ambient Temperature Range	-10 to +70		°C

DC ELECTRICAL CHARACTERISTICS over full operating conditions

Symbol	Parameter	Conditions	ALS1003A			Unit
			Min	Typ	Max	
V_{IK}	Input Clamp Voltage	$V_{CC} = \min, I_{IN} = -18 \text{ mA}$			-1.5	V
I_{OH}	Output HIGH Current	$V_{CC} = \min, V_{OH} = 5.5 \text{ V}$			100	μA
V_{OL}	Low Level Output Voltage	$V_{CC} = \min, I_{OL} = 12.0 \text{ mA}$		0.25	0.4	V
		$I_{OL} = 24.0 \text{ mA}$		0.35	0.5	V
I_{IH}	High Level Input Current	$V_{CC} = \max, V_{IN} = 2.7 \text{ V}$			20	μA
		$V_{CC} = \max, V_{IN} = 7.0 \text{ V}$			0.1	mA
I_{IL}	Low Level Input Current	$V_{CC} = \max, V_{IN} = 0.4 \text{ V}$			-0.1	mA
I_{CC}	Supply Current $V_{CC} = \max$	Total, Output HIGH		0.86	1.6	mA
		Total, Output LOW		4.8	7.8	mA

SWITCHING CHARACTERISTICS over full operating conditions

Symbol	Parameter	ALS1003A $C_L = 50 \text{ pF}$ $R_L = 680 \Omega$		Unit
		Min	Max	
t_{PLH}	Turn Off Delay, Input to Output	10	33	ns
t_{PHL}	Turn On Delay, Input to Output	2	12	ns

SWITCHING WAVEFORMS