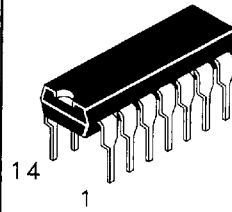


Quad 2-Input NAND Gate

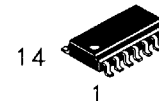
This device contains four independent gates, each of which performs the logic NAND function.

- AVG's LS operates over extended Vcc from 4.5 to 5.5 V
- AVG's LS and ALS both have 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

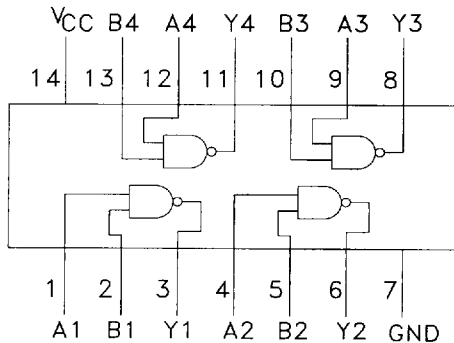
DV74LS00
DV74ALS00A



N Suffix
Plastic DIP
AVG-001 Case



D Suffix
Plastic SOP
AVG-002 Case



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	LS00	ALS00A	Unit
V _{CC}	Supply Voltage	7.0	7.0	V
V _{IN}	Input Voltage	7.0	7.0	V
T _{STG}	Storage Temperature Range	-65 to +150	-65 to +150	°C

GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	LS00		ALS00A		Unit
		Min	Max	Min	Max	
V _{CC}	Supply Voltage	4.5	5.5	4.5	5.5	V
V _{IH}	High Level Input Voltage	2.0		2.0		V
V _{IL}	Low Level Input Voltage		0.8		0.8	V
I _{OH}	High Level Output Current		-0.4		-0.4	mA
I _{OL}	Low Level Output Current		8.0		8.0	mA
T _A	Ambient Temperature Range	-10 to +70		-10 to +70		°C

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DC ELECTRICAL CHARACTERISTICS over full operating conditions

Symbol	Parameter	Conditions	LS00			ALS00A			Unit
			Min	Typ	Max	Min	Typ	Max	
V _{IK}	Input Clamp Voltage	V _{CC} = min, I _{IN} = -18 mA			-1.5			-1.5	V
V _{OH}	High Level Output Voltage	V _{CC} =min, I _{OH} =max,	V _{CC} -2	3.5		V _{CC} -2			V
V _{OL}	Low Level Output Voltage	V _{CC} =min V _{CC} =min; I _{OL} = 4 mA V _{CC} =min; I _{OL} =8 mA		0.25	0.4		0.25	0.4	V
				0.35	0.5		0.35	0.5	V
I _{IH}	High Level Input Current	V _{CC} =max, V _{IN} = 2.7V			20			20	μA
		V _{CC} =max, V _{IN} = 7V			0.1			0.1	mA
I _{IL}	Low Level Input Current	V _{CC} =max, V _{IN} =0.4V			-0.4			-0.1	mA
I _O	Output Short Circuit Current	V _{CC} =max, V _{OUT} =2.25V	-20		-110	-30		-112	mA
I _{CC}	Supply Current Outputs High Outputs Low	V _{CC} =max			1.6		0.5	0.85	mA
					4.4		1.5	3	

SWITCHING CHARACTERISTICS over full operating conditions

Symbol	Parameter	From	To	LS00 C _L =15 pF		ALS00A C _L =50 pF, R _L = 500Ω		Unit
				Min	Max	Min	Max	
t _{PLH}	Propagation Delay Time, Low to High Level Output	Input	Output		15	3	11	ns
t _{PHL}	Propagation Delay Time, High to Low Level Output	Input	Output		15	2	8	ns

SWITCHING WAVEFORMS