

54/7428
54LS/74LS28

PIN CONFIGURATION

ORDERING CODE (See Section 9 for further Package and Ordering Information.)

PACKAGES	PIN CONF.	COMMERCIAL RANGES $V_{CC} = 5V \pm 5\%$; $T_A = 0^\circ C$ to $70^\circ C$	MILITARY RANGES $V_{CC} = 5V \pm 10\%$; $T_A = -55^\circ C$ to $125^\circ C$
Plastic DIP	Fig. A	N7428N • N74LS28N	
Ceramic DIP	Fig. A	N7428F • N74LS28F	S5428F • S54LS28F
Flatpak	Fig. A		S5428W • S54LS28W

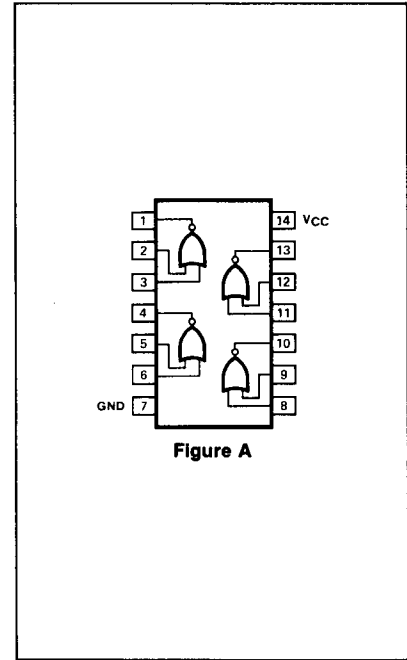


Figure A

INPUT AND OUTPUT LOADING AND FAN-OUT TABLE (a)

PINS		54/74	54H/74H	54S/74S	54LS/74LS
Inputs	I_{IH} (μA)	40			20
	I_{IL} (mA)	-1.6			-0.4
Outputs	I_{OH} (μA)	-2400			-1200
	I_{OL} (mA)	48			12/24 ^(a)

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (b)

PARAMETER	TEST CONDITIONS	54/74		54H/74H		54S/74S		54LS/74LS		UNIT
		Min	Max	Min	Max	Min	Max	Min	Max	
I_{OS}	Output short circuit current	$V_{CC} = \text{Max}, V_{OUT} = 0V$		-70	-180			-30	-100	mA
I_{CCH}	Supply current	$V_{CC} = \text{Max}, V_{IN} = 0V$			21				3.6	mA
I_{CCL}	Supply current	$V_{CC} = \text{Max}, V_{IN} \geq 4.5V$			57				13.8	mA

AC CHARACTERISTICS $T_A = 25^\circ C$ (See Section 4 for Waveforms and Conditions.)

PARAMETER	TEST CONDITIONS	54/74		54H/74H		54S/74S		54LS/74LS		UNIT
		$R_L = 133\Omega$						$C_L = 45pF$ $R_L = 667\Omega$		
		Min	Max	Min	Max	Min	Max	Min	Max	
t_{PLH}	Propagation delay	Waveform 1		9.0 ^(c)					24	ns
t_{PHL}				12 ^(c)					24	ns
t_{PLH}	Propagation delay	Waveform 1		15 ^(d)						ns
t_{PHL}				18 ^(d)						ns

NOTES

- a. The slashed numbers indicate different parametric values for Military/Commercial temperature ranges respectively.
- b. For family dc characteristics see inside front cover for 54/74 and 54H/74H, and see inside back cover for 54S/74S and 54LS/74LS specification.
- c. $C_L = 50pF$ for 54/7428
- d. $C_L = 150pF$ for 54/7428