

54/7404
54H/74H04
54S/74S04
54LS/74LS04

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 Fig. A	N7404N N74S04N	• N74H04N • N74LS04N		
Ceramic DIP	Fig. A Fig. A	N7404F N74S04F	• N74H04F • N74LS04F	S5404F S54S04F	• S54H04F • S54LS04F
Flatpak	Fig. B Fig. A			S5404W S54S04W	• S54H04W • S54LS04W

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

PINS		54/74	54H/74H	54S/74S	54LS/74LS
Inputs	I_{IH} (μA)	40	50	50	20
	I_{IL} (mA)	-1.6	-2.0	-2.0	-0.36
Outputs	I_{OH} (μA)	-400	-500	-1000	-400
	I_{OL} (mA)	16	20	20	4/8 ^(a)

PIN CONFIGURATIONS

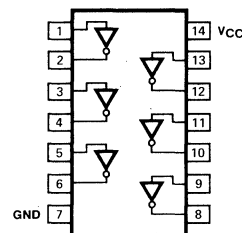


Figure A

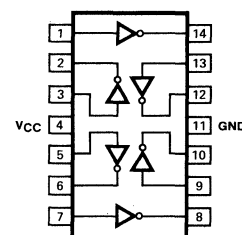


Figure B

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (See Note b)

PARAMETER		TEST CONDITIONS	54/74		54H/74H		54S/74S		54LS/74LS		UNIT
			Min	Max	Min	Max	Min	Max	Min	Max	
I_{CCH}	Supply current	$V_{CC} = \text{Max}, V_{IN} = 0V$		12		26		24		2.5	mA
I_{CCL}	Supply current	$V_{CC} = \text{Max}, V_{IN} \geq 4.5V$		33		58		54		6.6	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
		$C_L = 15\text{ pF}$ $R_L = 400\,\Omega$		$C_L = 25\text{ pF}$ $R_L = 280\,\Omega$		$C_L = 15\text{ pF}$ $R_L = 280\,\Omega$		$C_L = 15\text{ pF}$ $R_L = 2\text{ k}\,\Omega$		
		Min	Max	Min	Max	Min	Max	Min	Max	
t_{PLH} Propagation delay	Waveform 1		22		10		4.5		15	ns
t_{PHL} Propagation delay	Waveform 1		15		10		5.0		15	ns

NOTE

- The slashed numbers indicate different parametric values for Military/Commercial temperature ranges respectively.
- 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.