

**54/7405  
54H/74H05  
54S/74S05  
54LS/74LS05**

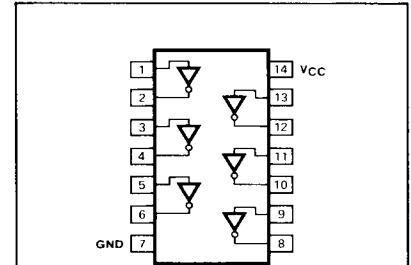
**ORDERING CODE** (See Section 9 for further Package and Ordering Information.)

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	N7405N N74S05N	• N74H05N • N74LS05N		
Ceramic DIP	Fig. A Fig. A	N7405F N74S05F	• N74H05F • N74LS05F	S5405F S54S05F	• S54H05F • S54LS05F
Flatpak	Fig. B Fig. A			S5405W S54S05W	• S54H05W • S54LS05W

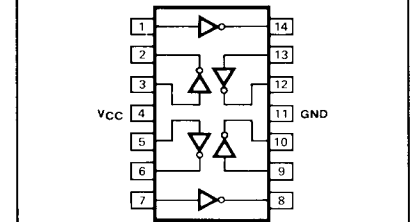
**INPUT AND OUTPUT LOADING AND FAN-OUT TABLE** (See Note a)

PINS		54/74	54H/74H	54S/74S	54LS/74LS
Inputs	$I_{IH}$ ( $\mu A$ )	40	50	50	20
	$I_{IL}$ (mA)	-1.6	-2.0	-2.0	-0.36
Outputs	$I_{OH}$ ( $\mu A$ )	+250	+250	+250	+100
	$I_{OL}$ (mA)	16	20	20	4/8 <sup>(a)</sup>

**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		19.8		mA
$I_{CCL}$	Supply current	$V_{CC} = \text{Max}, V_{IN} \geq 4.5V$			33		58		54		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		
		$C_L = 15 \text{ pF}$ $R_L = 400 \Omega$		$C_L = 25 \text{ pF}$ $R_L = 280 \Omega$		$C_L = 15 \text{ pF}$ $R_L = 280 \Omega$		$C_L = 15 \text{ pF}$ $R_L = 2k \Omega$				
		Min	Max	Min	Max	Min	Max	Min	Max			
$t_{PLH}$	Propagation delay	Waveform 1			55 <sup>(c)</sup>		15		7.5		32	ns
$t_{PHL}$	Propagation delay	Waveform 1			15		12		7.0		28	ns

NOTE

- 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.  $R_L = 4k\Omega$  for  $t_{PLH}$ .