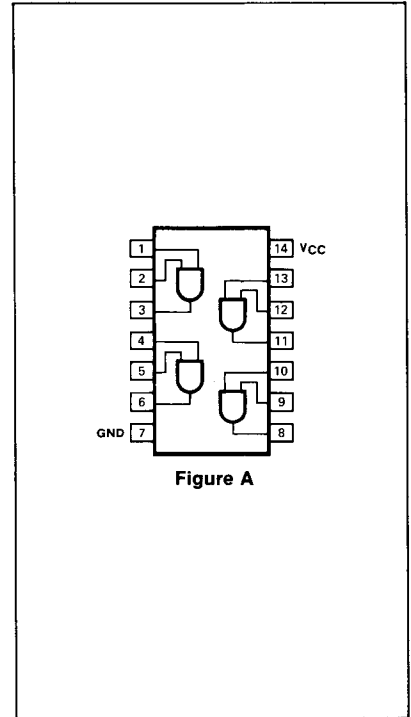


**54/7409  
54S/74S09  
54LS/74LS09**

**PIN CONFIGURATION**

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

PACKAGES	PIN CONF.	COMMERCIAL RANGES		MILITARY RANGES	
		$V_{CC} = 5V \pm 5\%$ ; $T_A = 0^\circ C$ to $+70^\circ C$		$V_{CC} = 5V \pm 10\%$ ; $T_A = -55^\circ C$ to $+125^\circ C$	
Plastic DIP	Fig. A Fig. A	N7409N	• N74S09N N74LS09N		
Ceramic DIP	Fig. A Fig. A	N7409F	• N74S09F N74LS09F	S5409F	• S54S09F S54LS09F
Flatpak	Fig. A Fig. A			S5409W	• S54S09W S54LS09W



**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	20
	$I_{IL}$ (mA)	-1.6		-2.0	-0.36
Outputs	$I_{OH}$ ( $\mu A$ )	-800		-1000	-400
	$I_{OL}$ (mA)	16		20	$4/8^{(a)}$

**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	$V_{CC} = \text{Max}, V_{IN} \geq 4.5V$			21			32	4.8	mA
$I_{CCL}$	Supply current	$V_{CC} = \text{Max}, V_{IN} = 0V$			33			57	8.8	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
		$C_L = 15pF$ $R_L = 400\Omega$				$C_L = 15pF$ $R_L = 280\Omega$		$C_L = 15pF$ $R_L = 2k\Omega$		
		Min	Max	Min	Max	Min	Max	Min	Max	
$t_{PLH}$	Propagation delay	Waveform 2			32			10	35	ns
$t_{PHL}$	Propagation delay	Waveform 2			24			10	35	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.