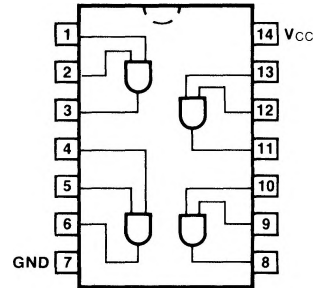


**54/7409**  
**54S/74S09**  
**54LS/74LS09**

**QUAD 2-INPUT AND GATE**  
 (With Open-Collector Output)

**CONNECTION DIAGRAM**  
**PINOUT A**



**ORDERING CODE:** See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V <sub>CC</sub> = +5.0 V ±5%, T <sub>A</sub> = 0°C to +70°C	V <sub>CC</sub> = +5.0 V ±10%, T <sub>A</sub> = -55°C to +125°C	
Plastic DIP (P)	A	7409PC, 74S09PC 74LS09PC		9A
Ceramic DIP (D)	A	7409DC, 74S09DC 74LS09DC	5409DM, 54S09DM 54LS09DM	6A
Flatpak (F)	A	7409FC, 74S09FC 74LS09FC	5409FM, 54S09FM 54LS09FM	3I

**INPUT LOADING/FAN-OUT:** See Section 3 for U.L. definitions

PINS	54/74 (U.L.) HIGH/LOW	54/74S (U.L.) HIGH/LOW	54/74LS (U.L.) HIGH/LOW
Inputs	1.0/1.0	1.25/1.25	0.5/0.25
Outputs	OC**/10	OC**/12.5	OC**/5.0 (2.5)

**DC AND AC CHARACTERISTICS:** See Section 3\*

SYMBOL	PARAMETER	54/74	54/74S	54/74LS	UNITS	CONDITIONS	
		Min Max	Min Max	Min Max			
I <sub>CC</sub> H	Power Supply Current	21	32	4.8	mA	V <sub>IN</sub> = Open	V <sub>CC</sub> = Max
I <sub>CC</sub> L		33	57	8.8		V <sub>IN</sub> = Gnd	
t <sub>PL</sub> H	Propagation Delay	32	2.0 10	20	ns	Fig. 3-2, 3-5	
t <sub>PH</sub> L		24	2.0 10	15			

\*DC limits apply over operating temperature range; AC limits apply at T<sub>A</sub> = +25°C and V<sub>CC</sub> = +5.0 V.

\*\*OC — Open Collector