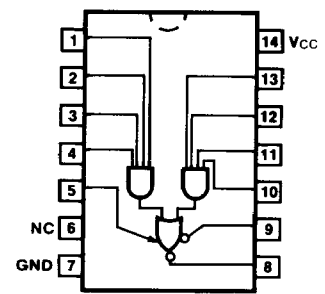


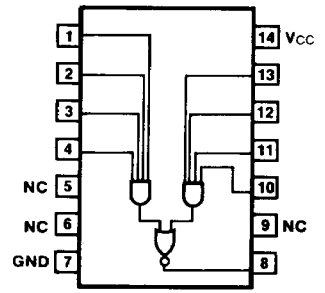
✓ 54H/74H55 011611
 ✓ 54LS/74LS55 011610

EXPANDABLE 4-INPUT AOI GATE ('H55)
 2-WIDE, 4-INPUT AOI GATE ('LS55)

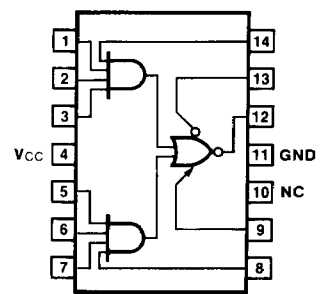
CONNECTION DIAGRAMS
 PINOUT A



PINOUT B



PINOUT C



ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V _{CC} = +5.0 V ±5%, T _A = 0°C to +70°C	V _{CC} = +5.0 V ±10%, T _A = -55°C to +125°C	
Plastic DIP (P)	A	74H55PC		9A
	B	74LS55PC		
Ceramic DIP (D)	A	74H55DC	54H55DM	6A
	B	74LS55DC	54LS55DM	
Flatpak (F)	B	74LS55FC	54LS55FM	3I
	C	74H55FC	54H55FM	

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

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

4

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE: Using Expander Pins

SYMBOL	PARAMETER		54/74H		54/74LS		UNITS	CONDITIONS	
			Min	Max	Min	Max			
V _{OH}	Output HIGH Voltage	XM	2.4				V	$I_1 = 320 \mu A$ $I_2 = -320 \mu A$	I _{OH} = -500 μA
		XC	2.4					$I_1 = 570 \mu A$ $I_2 = -570 \mu A$	
V _{OL}	Output LOW Voltage	XM	0.4				V	$I_1 = 470 \mu A$ $R_1 = 68 \Omega$	I _{OL} = 20 mA
		XC	0.4					$I_1 = 600 \mu A$ $R_1 = 63 \Omega$	
V _{BE(Q)}	Base-Emitter Voltage of Input Transistor Q	XM	1.0				V	$I_1 = 700 \mu A$	I _{OL} = 20 mA R ₁ = 0 Ω
		XC	1.0					$I_1 = 1.1 mA$	
I _{IN\bar{X}}	Expander-Node Input Current	XM	-5.85				mA	V \bar{X} = 1.4 V	
		XC	-6.3						
I _{CCH} I _{CCL}	Power Supply Current			6.4	0.8	mA	V _{IN} = Gnd	V _{CC} = Max	
				12	1.3		V _{IN} = Open		

AC CHARACTERISTICS: V_{CC} = +5.0 V, T_A = +25°C (See Section 3 for waveforms and load configurations)

SYMBOL	PARAMETER		54/74H		54/74LS		UNITS	CONDITIONS	
			Min	Max	Min	Max			
t _{PLH} t _{PHL}	Propagation Delay		11		15		ns	Expander Pins Open Figs. 3-1, 3-4	
t _{PLH} t _{PHL}	Propagation Delay		11.4*				ns	C _L = 25 pF (Gnd to \bar{X}) C _x = 15 pF	

*Typical Value