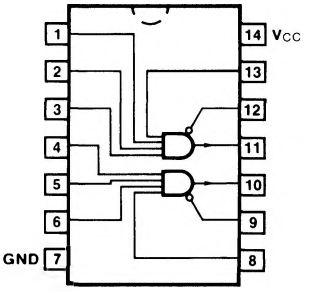
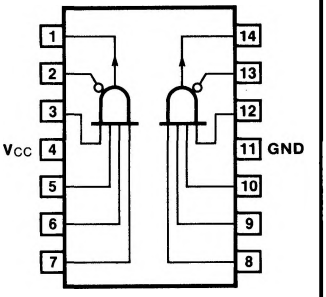
54/7460
54H/74H60
DUAL 4-INPUT EXPANDER

CONNECTION DIAGRAMS
PINOUT A



PINOUT B



ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE V_{CC} = +5.0 V ±5%, T_A = 0°C to +70°C	MILITARY GRADE V_{CC} = +5.0 V ±10%, T_A = -55°C to +125°C	PKG TYPE
Plastic DIP (P)	A	7460PC, 74H60PC		9A
Ceramic DIP (D)	A	7460DC, 74H60DC	5460DM, 54H60DM	6A
Flatpak (F)	B	7460FC, 74H60FC	5460FM, 54H60FM	3I

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

PINS	54/74 (U.L.) HIGH/LOW	54/74H (U.L.) HIGH/LOW
Inputs	1.0/1.0	1.25/1.25
Outputs[1]	Note 2	Note 2

DC AND AC CHARACTERISTICS: See Section 3[3]

SYMBOL	PARAMETER	54/74 Min	54/74 Max	54/74H Min	54/74H Max	UNITS	CONDITIONS[4]	
V_{ON}	Output ON Voltage		0.4			V	V_{CC} = Min, V_{IN} = 2.0 V V_1 = 1.0 V, R = 1.1 kΩ T_A = Min	
V_{ON}	Output ON Voltage				0.4	V	T_A = -55°C I_{ON} = 5.85 mA	V_{CC} = Min, V_{IN} = 2.0 V V_1 = 1.0 V
					0.4		T_A = 0°C I_{ON} = 6.3 mA	
V_{ON}	Output ON Voltage				0.4	V	T_A = +125°C I_{ON} = 7.85 mA	V_{CC} = Max, V_{IN} = 2.0 V, V_1 = 0.6 V
					0.4		T_A = +70°C I_{ON} = 7.4 mA	

1. A maximum of four expanders may be connected to one expandable AND-OR-Invert gate
2. Expander Outputs
3. DC limits apply over operating temperature range; AC limits apply at T_A = +25°C and V_{CC} = +5.0 V.
4. V_1 is applied to x output terminal during test.

DC AND AC CHARACTERISTICS: See Section 3[1] (Cont'd)

SYMBOL	PARAMETER	54/74 Min	54/74 Max	54/74H Min	54/74H Max	UNITS	CONDITIONS[2]	
I_{OFF}	Output OFF Current		150			μA	T_A = -55°C	V_{CC} = Min, V_{IN} = 0.8 V, V_1 = 4.5 V, R = 1.2 kΩ
			270				T_A = 0°C	
I_{OFF}	Output OFF Current				320	μA	T_A = -55°C	V_{CC} = Min, V_{IN} = 0.8 V, V_1 = 4.5 V, R = 575 Ω
					570		T_A = 0°C	
I_{ON}	Output ON Current	-0.3		-0.47		mA	T_A = -55°C	V_{CC} = Min, V_{IN} = 2.0 V, V_1 = 1.0 V
		-0.43		-0.6			T_A = 0°C	
$I_{CC(OFF)}$	Power Supply Current		4.0		4.5	mA	V_{IN} = Open	V_{CC} = Max, V_1 = 0.85 V
$I_{CC(ON)}$			2.5		3.5		V_{IN} = Gnd	
t_{PLH}	Propagation Delay		30			ns	Figs. 3-1, 3-4	
t_{PHL}			20					

OUTPUT CAPACITANCE: V_{CC} and Ground Terminals Open

SYMBOL	PARAMETER	54/74 Min	54/74 Max	54/74H Min	54/74H Max	UNITS	CONDITIONS
$C_{\overline{X}}$	Effective Capacitance of Output Transistor Q_1				1.3[3]	pF	f = 1.0 MHz, T_A = +25°C

1. DC limits apply over operating temperature range; AC limits apply at T_A = +25°C and V_{CC} = +5.0 V.
2. V_1 is applied to x output terminal during test.
3. Typical Value