

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

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	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

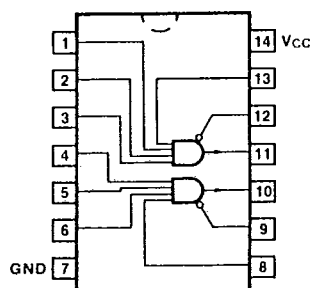
PINS	54/74 (U.L.) HIGH/LOW	54/74H (U.L.) HIGH/LOW
Inputs	1.0/1.0	1.25/1.25
Outputs ¹	Note 2	Note 2

DC AND AC CHARACTERISTICS: See Section 3³

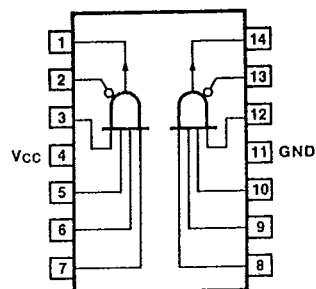
SYMBOL	PARAMETER	54/74		UNITS	CONDITIONS ⁴	
		Min	Max			
V _{ON}	Output ON Voltage		0.4	V	V _{CC} = Min, V _{IN} = 2.0 V V _I = 1.0 V, R = 1.1 kΩ T _A = Min	
V _{ON}	Output ON Voltage		0.4	V	T _A = -55°C I _{ON} = 5.85 mA	V _{CC} = Min, V _{IN} = 2.0 V V _I = 1.0 V
					T _A = 0°C I _{ON} = 6.3 mA	
V _{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 _I = 0.6 V
					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_I is applied to x output terminal during test.

CONNECTION DIAGRAMS
 PINOUT A



PINOUT B



DC AND AC CHARACTERISTICS: See Section 31 (Cont'd)

DC AND AC CHARACTERISTICS								
SYMBOL	PARAMETER	54/74		54/74H		UNITS	CONDITIONS ²	
		Min	Max	Min	Max			
I _{OFF}	Output OFF Current	150				μA	T _A = -55°C	V _{CC} = Min, V _{IN} = 0.8 V, V _I = 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 _I = 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 _I = 1.0 V
		-0.43		-0.6			T _A = 0°C	
I _{CC(OFF)} I _{CC(ON)}	Power Supply Current	4.0		4.5		mA	V _{IN} = Open	V _{CC} = Max, V _I = 0.85 V
		2.5		3.5			V _{IN} = Gnd	
t _{PLH} t _{PHL}	Propagation Delay	30 20				ns	Figs. 3-1, 3-4	

OUTPUT CAPACITANCE: V_{CC} and Ground Terminals Open

SYMBOL	PARAMETER	54/74		54/74H		UNITS	CONDITIONS
		Min	Max	Min	Max		
C _X	Effective Capacitance of Output Transistor Q ₁			1.33		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_I is applied to x output terminal during test.
 3. Typical Value