5461/7461 Triple 3-Inpnt Expander

	Schottky TTL					High-Speed TTL					Low-Power Schottky TTL					Standard TTL					Low-Power TTL				
	Device Type	Package				Device Type	Package				Device Type	Package				Device Type	Package				Device Type	Package			
		C	P	M	CF		C	P	M	CF		C	P	M	CF		C	P	M	CF		C	P	M	CF
T.I.						SN54H61	J①			W②															
						SN74H61	J①	N①																	
FAIRCHILD						FH54H61/FM9H61	D①			F②															
						FC74H61/FC9H61	D①	P①		F②															
MOTOROLA						MC3119	L①			F①															
						MC3019	L①	P①		F①															
N.S.C.						DM54H61	J①	N①																	
						DM74H61	J①	N①																	
PHILIPS						N74H61		①																	
SIGNETICS						S54H61	F①	A①		W②															
						N74H61	F①	A①																	
SIEMENS																									
FUJITSU																									
HITACHI																									
MITSUBISHI																									
NEC																									
TOSHIBA																									

Electrical Characteristics SN54H61/SN74H61

absolute maximum ratings over operating free-air temperature range

Supply voltage, V_{CC}	7V	Operating free-air temperature range	SN54H	−55°C to 125°C
Input voltage	5.5V		SN74H	0°C to 70°C
Interemitter voltage	5.5V	Storage temperature range		−65°C to 150°C

recommended operating conditions

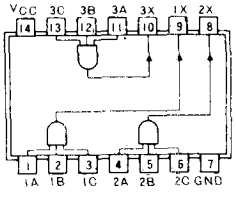
	SN5460 H61			SN7460 H61			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, V_{CC}	4.5	5	5.5	4.75	5	5.25	V
Operating free-air temperature, T_A	−55		125	0		70	°C

electrical characterics over recommended operating free-air temperature range

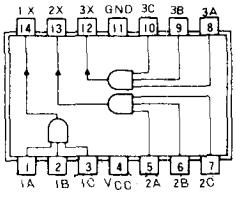
PARAMETER		TEST CONDITIONS†	MIN	TYP‡	MAX	UNIT
V_{IH}	High-level input voltage		2			V
V_{IL}	Low-level input voltage				0.8	V
V_X (on)	On-state expander-output voltage	V_{CC}=MIN, V_{IH}=2V, I_X= 4.5mA for SN54H61, 5.35mA for SN74H61, T_A=MIN			1	V
I_X (off)	Off-state expander current	V_{CC}=MIN, V_{IL}=0.8V, V_X=2.2V, T_A=MAX			50	μA
I_I	Input current at maximum input voltage	V_{CC}=5.5V, V_I=5.5V			1	mA
I_{IH}	High-level input current	V_{CC}=5.5V, V_I=2.4V			50	μA
I_{IL}	Low-level input current	V_{CC}=5.5V, V_I=0.4V			−2	mA
I_{CC} (on)	Supply current, expander on	V_{CC}=5.5V, V_I=4.5V		11	16	mA
I_{CC} (off)	Supply current, expander off	V_{CC}=5.5V, V_I=0		5	7	mA
C_X	Expander output capacitance	V_{CC} and inputs open, f=1 MHz		5.4		pF

Pin Assignments (Top View)

①

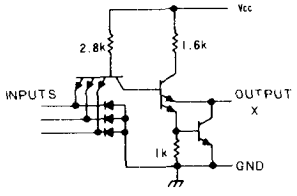


②



positive logic:
X = ABC when connected to X input of SN5452/SN74H52

Schematic (each gate)



'H61 CIRCUIT

Resistor values shown are nominal and in ohms.

† For conditions shown as MIN. or MAX., use the appropriate value specified under recommended operating conditions.
‡ All typical values are at V_{CC} = 5.5V (except C_X). T_A = 25°C
The 'H52 is designed for use with up to six 'H61 expanders.