REVISED DECEMBER 1983

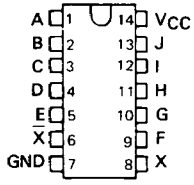
- **Package Options Include Plastic and Ceramic DIPs**
- **Dependable Texas Instruments Quality and Reliability**

description

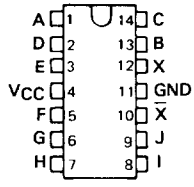
These devices contain 4-wide AND-OR expanders. In the J and N packages they perform the Boolean function $X = AB + CDE + FGH + IJ$ when connected to X and $\overline{X}$ inputs of SN54H50/SN74H50, SN54H53/SN74H53, or SN54H55/SN74H55. In a W package the function is $Y = ABC + DE + FG + HIJ$.

The SN54H62 is characterized for operation over the full military temperature range of −55°C to 125°C. The SN74H62 is characterized for operation from 0°C to 70°C.

SN54H62 . . . J PACKAGE
SN74H62 . . . J OR N PACKAGE
(TOP VIEW)



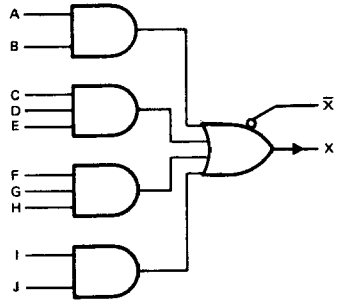
SN54H62 . . . W PACKAGE
(TOP VIEW)



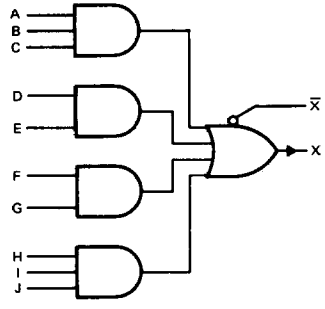
NC – No internal connection

logic diagrams

J OR N PACKAGE



W PACKAGE



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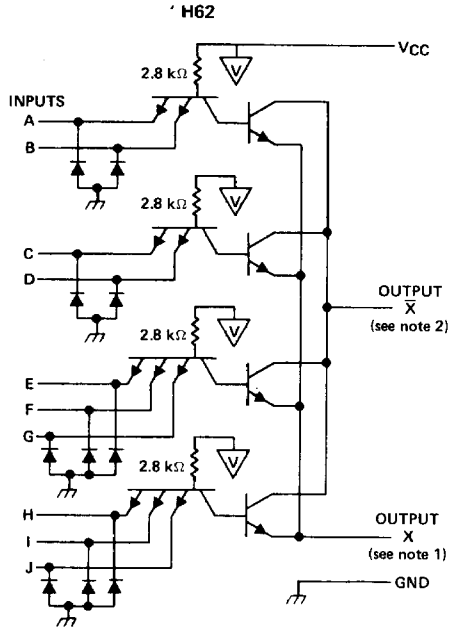
TTL DEVICES

PRODUCTION DATA
This document contains information current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

schematic



NOTES: 1. Connect to X input of 'H50, 'H53, or 'H55 circuit.
2. Connect to $\overline{X}$ input of 'H50, 'H53, or 'H55 circuit.
Resistor values shown are nominal.

absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

Supply voltage, V_{CC} (see Note 3) . . . . . 7 V
Input voltage . . . . . 5.5 V
Operating free-air temperature range: SN54H62 . . . . . −55°C to 125°C
SN74H62 . . . . . 0°C to 70°C
Storage temperature range . . . . . −65°C to 150°C

NOTE 3: Voltage values are with respect to network ground terminal.

TEXAS INSTRUMENTS
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recommended operating conditions

	SN54H62			SN74H62			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
V_{CC} Supply voltage	4.5	5	5.5	4.75	5	5.25	V
V_{IH} High-level input voltage	2			2			V
V_{IL} Low-level input voltage			0.8			0.8	V
T_A Operating free-air temperature	−55		125	0		70	°C

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	SN54H62			SN74H62			UNIT
		MIN	TYP‡	MAX	MIN	TYP‡	MAX	
$V_{XX(on)}$	V_{CC} = MIN, V_{IH} = 2 V, V_X = 1.1 V, $I_{\overline{X}}$ = 5.85 mA, T_A = −55°C			0.4				V
	V_{CC} = MIN, V_{IH} = 2 V, V_X = 1 V, $I_{\overline{X}}$ = 6.3 mA, T_A = 0°C						0.4	
	V_{CC} = MAX, V_{IH} = 2 V, V_X = 1 V, $I_{\overline{X}}$ = 7.85 mA, T_A = 125°C			0.4				
	V_{CC} = MAX, V_{IH} = 2 V, V_X = 1 V, $I_{\overline{X}}$ = 7.4 mA, T_A = 70°C						0.4	
$I_{X(on)}$	V_{CC} = MIN, V_{IH} = 2 V, V_X = 1.1 V, $I_{\overline{X}}$ = 0, T_A = −55°C	−0.47						mA
	V_{CC} = MIN, V_{IH} = 2 V, V_X = 1 V, $I_{\overline{X}}$ = 0, T_A = 0°C					−0.6		
$I_{X(off)}$	V_{CC} = MIN, V_{IL} = 0.8 V, $V_{\overline{X}}$ = 4.5 V, R_X = 575 Ω, T_A = −55°C			0.32				mA
	V_{CC} = MIN, V_{IL} = 0.8 V, $V_{\overline{X}}$ = 4.5 V R_X = 575 Ω, T_A = 0°C						0.57	
I_I	V_{CC} = MAX, V_I = 5.5 V			1			1	mA
I_{IH}	V_{CC} = MAX, V_I = 2.4 V			50			50	μA
I_{IL}	V_{CC} = MAX, V_I = 0.4 V			−2			−2	mA
$I_{CC(on)}$	V_{CC} = MAX, V_I = 4.5 V, V_X = 0.85 V, $I_{\overline{X}}$ = 0		3.8	7		3.8	7	mA
$I_{CC(off)}$	V_{CC} = MAX, V_I = 0, V_X = 0.85 V, $I_{\overline{X}}$ = 0		6	9		6	9	mA
$C_{\overline{X}}$	V_{CC}, inputs, and X open; f = 1 MHz		6.0			6.0		pF

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.
‡ All typical values are at V_{CC} = 5 V (except $C_{\overline{X}}$), T_A = 25°C.