

TYPES SN54H62, SN74H62 4-WIDE AND-OR EXPANDERS

REVISED DECEMBER 1983

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

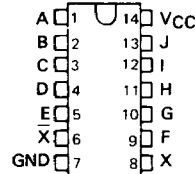
description

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 \bar{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 .

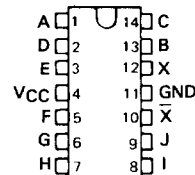
SN54H62 ... J PACKAGE
SN74H62 ... J OR N PACKAGE

(TOP VIEW)



SN54H62 ... W PACKAGE

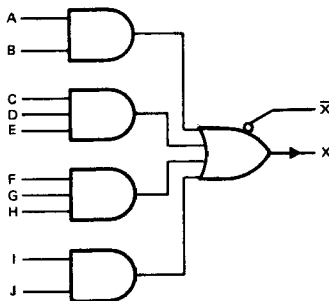
(TOP VIEW)



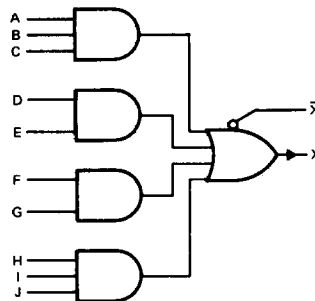
NC - No internal connection

logic diagrams

J OR N PACKAGE



W PACKAGE



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PRODUCTION DATA

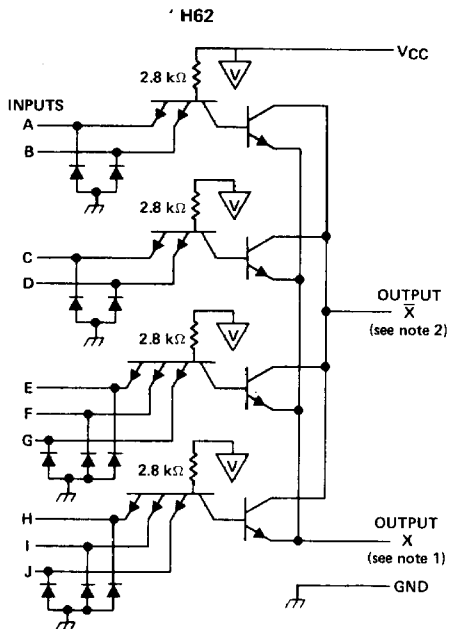
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TEXAS
INSTRUMENTS

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**TYPES SN54H62, SN74H62
4-WIDE AND-OR EXPANDERS**

schematic



NOTES: 1. Connect to X input of 'H50, 'H53, or 'H55 circuit.
2. Connect to \bar{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.

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TYPES SN54H62, SN74H62 4-WIDE AND-OR EXPANDERS

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	
V _{XX(on)}	V _{CC} = MIN, V _{IH} = 2 V, V _X = 1.1 V, I _X = 5.85 mA, T _A = - 55°C	0.4				V
	V _{CC} = MIN, V _{IH} = 2 V, V _X = 1 V, I _X = 6.3 mA, T _A = 0°C			0.4		
	V _{CC} = MAX, V _{IH} = 2 V, V _X = 1 V, I _X = 7.85 mA, T _A = 125°C	0.4				
	V _{CC} = MAX, V _{IH} = 2 V, V _X = 1 V, I _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 _X = 0, T _A = - 55°C	-0.47				mA
	V _{CC} = MIN, V _{IH} = 2 V, V _X = 1 V, I _X = 0, T _A = 0°C			- 0.6		
I _{X(off)}	V _{CC} = MIN, V _{IL} = 0.8 V, V _X = 4.5 V, R _X = 575 Ω, T _A = - 55°C	0.32				mA
	V _{CC} = MIN, V _{IL} = 0.8 V, V _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 _X = 0	3.8	7	3.8	7	mA
I _{CC(off)}	V _{CC} = MAX, V _I = 0, V _X = 0.85 V, I _X = 0	6	9	6	9	mA
C _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_X], T_A = 25°C.

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