Rochester Electronics

Datasheet

Rochester Electronics Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All recreations are done with the approval of the OCM.

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceed the OCM data sheet.

Quality Overview

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-35835
    - Class Q Military
    - Class V Space Level
- Qualified Suppliers List of Distributors (QSLD)

- Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OEM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

REVISED DECEMBER 1983

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

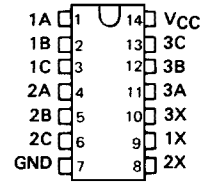
description

These devices contain three independent 3-input expanders. They perform the Boolean function X = ABC when connected to X input of SN54H52/SN74H52.

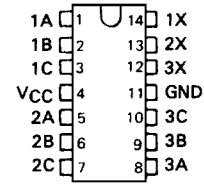
The SN54H61 is characterized for operation over the full military temperature range of −55°C to 125°C. The SN74H61 is characterized for operation from 0°C to 70°C.

logic diagram (each gate)

SN54H61 . . . J PACKAGE
SN74H61 . . . J OR N PACKAGE
(TOP VIEW)

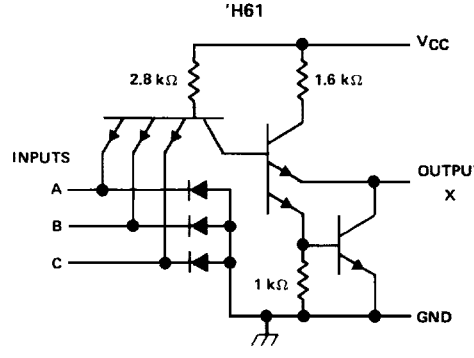


SN54H61 . . . W PACKAGE
(TOP VIEW)



NC - No internal connection

schematic (each gate)



Resistor values shown are nominal.

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

Supply voltage, V_{CC} (see Note 1) . . . . . 7 V
Input voltage . . . . . 5.5 V
Operating free-air temperature range: SN54H61 . . . . . −55°C to 125°C
SN74H61 . . . . . 0°C to 70°C
Storage temperature range . . . . . −65°C to 150°C

NOTE 1: Voltage values are with respect to network ground terminal.

recommended operating conditions

		SN54H61			SN74H61			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

The 'H52 is designed for use with up to six 'H61 expanders.

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

PARAMETER	TEST CONDITIONS †	SN54H61			SN74H61			UNIT
		MIN	TYP‡	MAX	MIN	TYP‡	MAX	
$V_{X(on)}$	V_{CC} = MIN, V_{IH} = 2 V, I_X = 4.5 mA, T_A = MIN			1				V
	V_{CC} = MIN, V_{IH} = 2 V, I_X = 5.35 mA, T_A = MIN						1	
$I_{X(off)}$	V_{CC} = MIN, V_{IL} = 0.8 V, V_X = 2.2 V, T_A = MAX			50			50	μA
I_I	V_{CC} = 5.5 V, V_I = 5.5 V			1			1	mA
I_{IH}	V_{CC} = 5.5 V, V_I = 2.4 V			50			50	μA
I_{IL}	V_{CC} = 5.5 V, V_I = 0.4 V			−2			−2	mA
$I_{CC(on)}$	V_{CC} = 5.5 V, V_I = 4.5 V		11	16		11	16	mA
$I_{CC(off)}$	V_{CC} = 5.5 V, V_I = 0 V		5	7		5	7	mA
C_X	V_{CC} and inputs open; f = 1 MHz		5.4			5.4		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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