

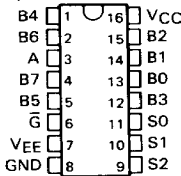
HIGH-SPEED CMOS LOGIC

TYPES SN54HC4051, SN54HC4052, SN54HC4053 SN74HC4051, SN74HC4052, SN74HC4053 ANALOG MULTIPLEXERS/DEMULTIPLEXERS

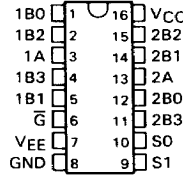
D2804, MARCH 1984

- Fast Switching
- Low Crosstalk Between Switches
- High On/Off Output Voltage Ratio
- Analog Supply Voltage Range ($V_{CC}-V_{EE}$) . . . 3 V to 12 V
- Digital Supply Voltage Range ($V_{CC}-GND$) . . . 2 V to 6 V
- Package Options Include Both Plastic and Ceramic Chip Carriers in Addition to Plastic and Ceramic DIPs
- Dependable Texas Instruments Quality and Reliability

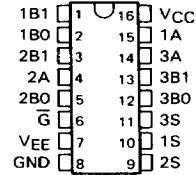
**SN54HC4051 . . . J PACKAGE
SN74HC4051 . . . J OR N PACKAGE**
(TOP VIEW)



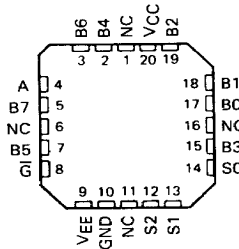
**SN54HC4052 . . . J PACKAGE
SN74HC4052 . . . J OR N PACKAGE**
(TOP VIEW)



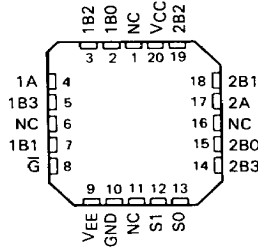
**SN54HC4053 . . . J PACKAGE
SN74HC4053 . . . J OR N PACKAGE**
(TOP VIEW)



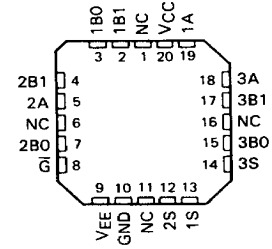
**SN54HC4051 . . . FH OR FK PACKAGE
SN74HC4051 . . . FH OR FN PACKAGE**
(TOP VIEW)



**SN54HC4052 . . . FH OR FK PACKAGE
SN74HC4052 . . . FH OR FN PACKAGE**
(TOP VIEW)



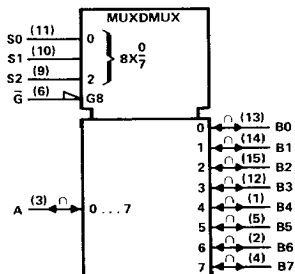
**SN54HC4053 . . . FH OR FK PACKAGE
SN74HC4053 . . . FH OR FN PACKAGE**
(TOP VIEW)



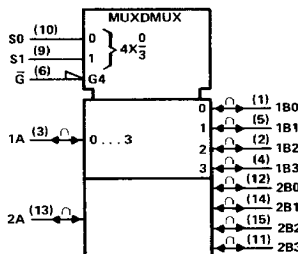
NC—No internal connection.

logic symbols

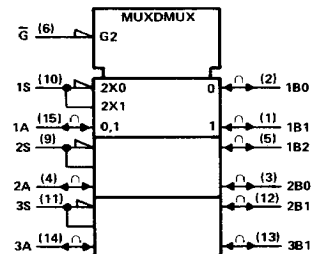
'HC4051



'HC4052



'HC4053



Pin numbers shown are for J and N packages.

PRODUCT PREVIEW

This document contains information on a product under development. Texas Instruments reserves the right to change or discontinue this product without notice.

**TEXAS
INSTRUMENTS**

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PRODUCT PREVIEWS

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**TYPES SN54HC4051, SN54HC4052, SN54HC4053
SN74HC4051, SN74HC4052, SN74HC4053
ANALOG MULTIPLEXERS/DEMULTIPLEXERS**

description

These devices are analog multiplexers/demultiplexers incorporating built-in level shifting. The level shifting allows a control input range of GND to V_{CC} for an analog signal range of V_{EE} to V_{CC}. Thus the common situation of positive digital signals controlling the multiplexing of both positive and negative analog signals can be accommodated.

These digitally controlled bilateral analog switches have low on-state impedance and very low off-state current. When the inhibit input terminal is high, all channels are off.

The 'HC4051 is a single eight-channel multiplexer/demultiplexer having three binary control inputs (S₀, S₁, and S₂) and an enable input (\bar{G}). The three binary signals select one of eight channels to be turned on.

The 'HC4052 is a dual four-channel multiplexer/demultiplexer having two control inputs (S₀ and S₁) and an enable input (\bar{G}). The two binary signals select one of four channels in each of the two sections.

The 'HC4053 is a triple two-channel multiplexer/demultiplexer having three separate control inputs (1S, 2S, and 3S) and a common enable input (\bar{G}). Each S input independently selects one of two channels in one of the three sections.

The SN54HC4051, SN54HC4052, and SN54HC4053 are characterized for operation over the full military temperature range of -55°C to 125°C. The SN74HC4051, SN74HC4052, and SN74HC4053 are characterized for operation from -40°C to 85°C.

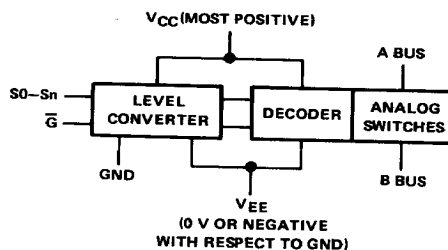


FIGURE 1. INTERNAL POWER SUPPLY CONNECTIONS

PRODUCT PREVIEWS

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**'HC4051
FUNCTION TABLE**

\bar{G}	INPUTS			CHANNEL TURNED ON
	S ₂	S ₁	S ₀	
H	X	X	X	None
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7

**'HC4052
FUNCTION TABLE
(EACH BILATERAL SWITCH)**

\bar{G}	INPUTS		CHANNEL TURNED ON
	S ₁	S ₀	
H	X	X	None
L	L	L	0
L	L	H	1
L	H	L	2
L	H	H	3

**'HC4053
FUNCTION TABLE
(EACH BILATERAL SWITCH)**

\bar{G}	INPUTS		CHANNEL TURNED ON
	S		
H	X		None
L	L		0
L	H		1