

SN54150, SN54151A, SN54LS151, SN54S151, SN74150, SN74151A, SN74LS151, SN74S151 DATA SELECTORS/MULTIPLEXERS

DECEMBER 1972—REVISED MARCH 1988

- '150 Selects One-of-Sixteen Data Sources
- Others Select One-of-Eight Data Sources
- All Perform Parallel-to-Serial Conversion
- All Permit Multiplexing from N Lines to One Line
- Also For Use as Boolean Function Generator
- Input-Clamping Diodes Simplify System Design
- Fully Compatible with Most TTL Circuits

TYPE	TYPICAL AVERAGE	TYPICAL
	PROPAGATION DELAY TIME DATA INPUT TO W OUTPUT	POWER DISSIPATION
'150	13 ns	200 mW
'151A	8 ns	145 mW
'LS151	13 ns	30 mW
'S151	4.5 ns	225 mW

description

These monolithic data selectors/multiplexers contain full on-chip binary decoding to select the desired data source. The '150 selects one-of-sixteen data sources; the '151A, 'LS151, and 'S151 select one-of-eight data sources. The '150, '151A, 'LS151, and 'S151 have a strobe input which must be at a low logic level to enable these devices. A high level at the strobe forces the W output high, and the Y output (as applicable) low.

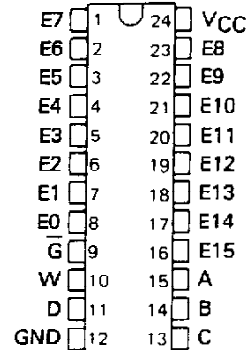
The '150 has only an inverted W output; the '151A, 'LS151, and 'S151 feature complementary W and Y outputs.

The '151A and '152A incorporate address buffers that have symmetrical propagation delay times through the complementary paths. This reduces the possibility of transients occurring at the output(s) due to changes made at the select inputs, even when the '151A outputs are enabled (i.e., strobe low).

SN54150 . . . J OR W PACKAGE

SN74150 . . . N PACKAGE

(TOP VIEW)

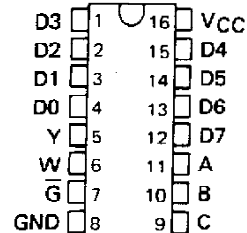


SN54151A, SN54LS151, SN54S151 . . . J OR W PACKAGE

SN74151A . . . N PACKAGE

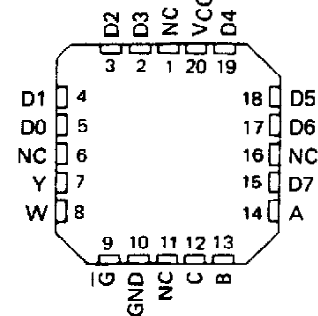
SN74LS151, SN74S151 . . . D OR N PACKAGE

(TOP VIEW)



SN54LS151, SN54S151 . . . FK PACKAGE

(TOP VIEW)



NC - No internal connection

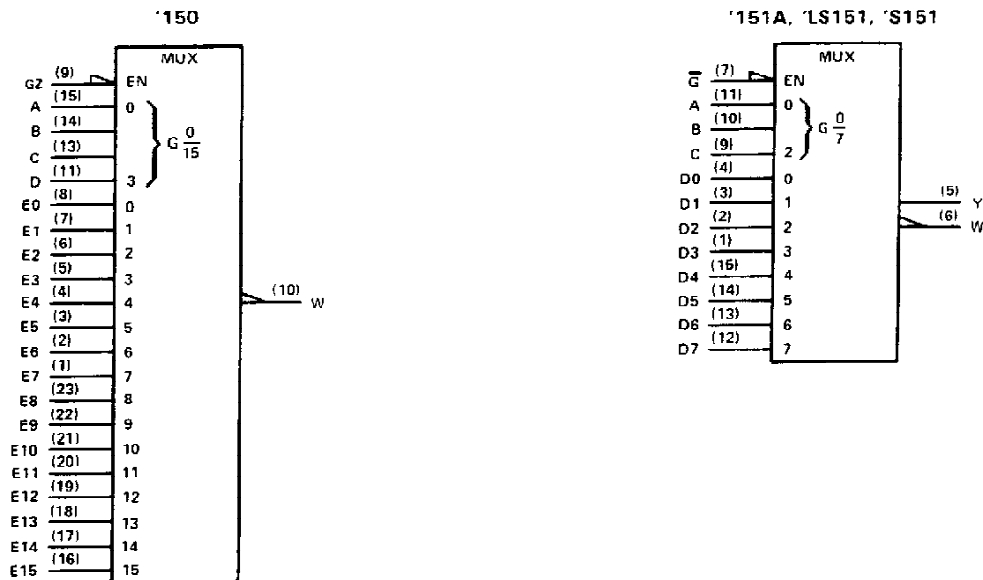
PRODUCTION DATA documents contain information current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

TEXAS
INSTRUMENTS

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**SN54150, SN54151A, SN54LS151, SN54S151,
SN74150, SN74151A, SN74LS151, SN74S151
DATA SELECTORS/MULTIPLEXERS**

logic symbols†



†These symbols are in accordance with ANSI/IEEE Std. 91-1984 and IEC Publication 617-12. Pin numbers shown are D, J, N, and W packages.

**'150
FUNCTION TABLE**

INPUTS				STROBE \bar{G}	OUTPUT W
D	C	B	A		
X	X	X	X	H	H
L	L	L	L	L	$\bar{E0}$
L	L	L	H	L	$\bar{E1}$
L	L	H	L	L	$\bar{E2}$
L	L	H	H	L	$\bar{E3}$
L	H	L	L	L	$\bar{E4}$
L	H	L	H	L	$\bar{E5}$
L	H	H	L	L	$\bar{E6}$
L	H	H	H	L	$\bar{E7}$
H	L	L	L	L	$\bar{E8}$
H	L	L	H	L	$\bar{E9}$
H	L	H	L	L	$\bar{E10}$
H	L	H	H	L	$\bar{E11}$
H	H	L	L	L	$\bar{E12}$
H	H	L	H	L	$\bar{E13}$
H	H	H	L	L	$\bar{E14}$
H	H	H	H	L	$\bar{E15}$

**'151A, 'LS151, 'S151
FUNCTION TABLE**

INPUTS				OUTPUTS	
SELECT			STROBE \bar{G}	Y	W
C	B	A			
X	X	X	H	L	H
L	L	L	L	D0	$\bar{D0}$
L	L	H	L	D1	$\bar{D1}$
L	H	L	L	D2	$\bar{D2}$
L	H	H	L	D3	$\bar{D3}$
H	L	L	L	D4	$\bar{D4}$
H	L	H	L	D5	$\bar{D5}$
H	H	L	L	D6	$\bar{D6}$
H	H	H	L	D7	$\bar{D7}$

H = high level, L = low level, X = irrelevant
 $\bar{E0}, \bar{E1} \dots \bar{E15}$ = the complement of the level of the respective E input
D0, D1 ... D7 = the level of the D respective input

