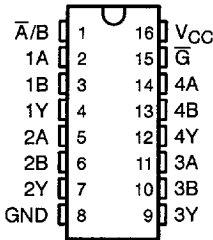


SN74LVC157
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTOR/MULTIPLEXER

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- **EPIC™** (Enhanced-Performance Implanted CMOS) Submicron Process
- Typical V_{OLP} (Output Ground Bounce) $< 0.8\text{ V}$ at $V_{CC} = 3.3\text{ V}$, $T_A = 25^\circ\text{C}$
- Typical V_{OHV} (Output V_{OH} Undershoot) $> 2\text{ V}$ at $V_{CC} = 3.3\text{ V}$, $T_A = 25^\circ\text{C}$
- Package Options Include Plastic Small-Outline (D), Shrink Small-Outline (DB), and Thin Shrink Small-Outline (PW) Packages

D, DB, OR PW PACKAGE
(TOP VIEW)



description

This quadruple 2-line to 1-line data selector/multiplexer is designed for 2.7-V to 3.6-V V_{CC} operation.

The SN74LVC157 features a common strobe ($\bar{G}$) input. When the strobe is high, all outputs are low. When the strobe is low, a 4-bit word is selected from one of two sources and is routed to the four outputs. The device provides true data.

The SN74LVC157 is characterized for operation from -40°C to 85°C .

FUNCTION TABLE

INPUTS				OUTPUT
$\bar{G}$	$\bar{A}/B$	A	B	Y
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

PRODUCT PREVIEW

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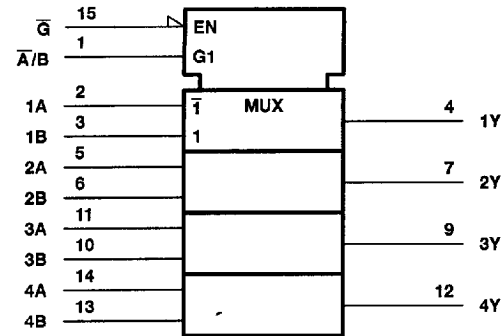
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SN74LVC157
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTOR/MULTIPLEXER

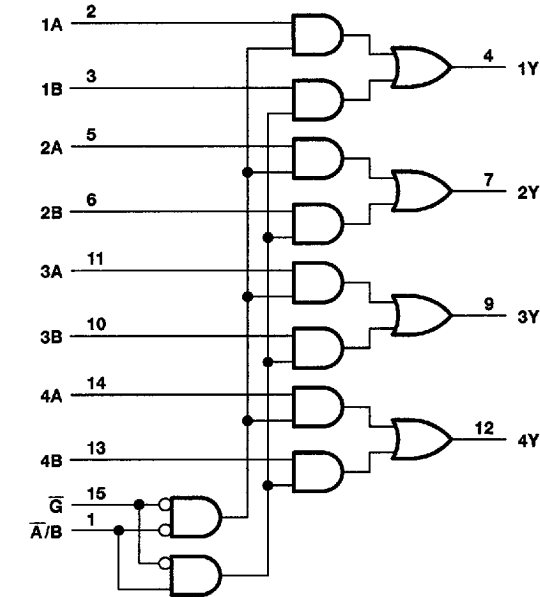
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logic symbol†



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

logic diagram (positive logic)



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

Supply voltage range, V_{CC}	-0.5 V to 4.6 V
Input voltage range, V_I	-0.5 V to 4.6 V
Output voltage range, V_O (see Note 1)	-0.5 V to $V_{CC} + 0.5$ V
Input clamp current, I_{IK} ($V_I < 0$)	-50 mA
Output clamp current, I_{OK} ($V_O < 0$ or $V_O > V_{CC}$)	±50 mA
Continuous output current, I_O ($V_O = 0$ to V_{CC})	±50 mA
Continuous current through V_{CC} or GND	±100 mA
Maximum power dissipation at $T_A = 55^\circ\text{C}$ (in still air):	
D package	1.3 W
DB package	0.55 W
PW package	0.5 W
Storage temperature range	-65°C to 150°C

‡ Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

NOTE 1: This value is limited to 4.6 V maximum.

PRODUCT PREVIEW

SN74LVC157
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTOR/MULTIPLEXER

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recommended operating conditions (see Note 2)

			MIN	MAX	UNIT
V _{CC}	Supply voltage		2.7	3.6	V
V _{IH}	High-level input voltage	V _{CC} = 2.7 V to 3.6 V	2		V
V _{IL}	Low-level input voltage	V _{CC} = 2.7 V to 3.6 V		0.8	V
V _I	Input voltage		0	V _{CC}	V
V _O	Output voltage		0	V _{CC}	V
I _{OH}	High-level output current	V _{CC} = 2.7 V		–12	mA
		V _{CC} = 3 V		–24	
I _{OL}	Low-level output current	V _{CC} = 2.7 V		12	mA
		V _{CC} = 3 V		24	
Δt/Δv	Input transition rise or fall rate		0	10	ns/V
T _A	Operating free-air temperature		–40	85	°C

NOTE 2: Unused or floating inputs must be held high or low.

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

PARAMETER	TEST CONDITIONS	V _{CC} †	T _A = –40°C to 85°C		UNIT
			MIN	MAX	
V _{OH}	I _{OH} = –100 μA	MIN to MAX	V _{CC} –0.2		V
	I _{OH} = –12 mA	2.7 V	2.2		
		3 V	2.4		
	I _{OH} = –24 mA	3 V	2		
V _{OL}	I _{OL} = 100 μA	MIN to MAX	0.2		V
	I _{OL} = 12 mA	2.7 V	0.4		
	I _{OL} = 24 mA	3 V			
I _I	V _I = V _{CC} or GND	3.6 V			μA
I _{OZ}	V _O = V _{CC} or GND	3.6 V			μA
I _{CC}	V _I = V _{CC} or GND, I _O = 0	3.6 V			μA
ΔI _{CC}	V _{CC} = 3 V to 3.6 V, One input at V _{CC} – 0.6 V, Other inputs at V _{CC} or GND				μA
C _i	V _I = V _{CC} or GND	3.3 V			pF
C _o	V _O = V _{CC} or GND	3.3 V			pF

† For conditions shown as MIN or MAX, use the appropriate values under recommended operating conditions.

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