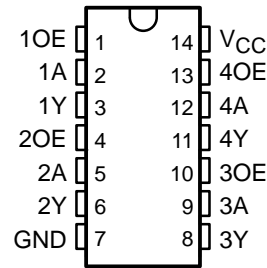


SN74LVC126A QUADRUPLE BUS BUFFER GATE WITH 3-STATE OUTPUTS

SCAS339B – MARCH 1994 – REVISED SEPTEMBER 1996

- **EPIC™** (Enhanced-Performance Implanted CMOS) Submicron Process
- Typical V_{OLP} (Output Ground Bounce) < 0.8 V at $V_{CC} = 3.3$ V, $T_A = 25^\circ\text{C}$
- Typical V_{OHV} (Output V_{OH} Undershoot) > 2 V at $V_{CC} = 3.3$ V, $T_A = 25^\circ\text{C}$
- Inputs Accept Voltages to 5.5 V
- 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 bus buffer gate is designed for 2.7-V to 3.6-V V_{CC} operation.

The SN74LVC126A features independent line drivers with 3-state outputs. Each output is disabled when the associated output-enable (OE) input is low.

To ensure the high-impedance state during power up or power down, OE should be tied to GND through a pulldown resistor; the minimum value of the resistor is determined by the current-sourcing capability of the driver.

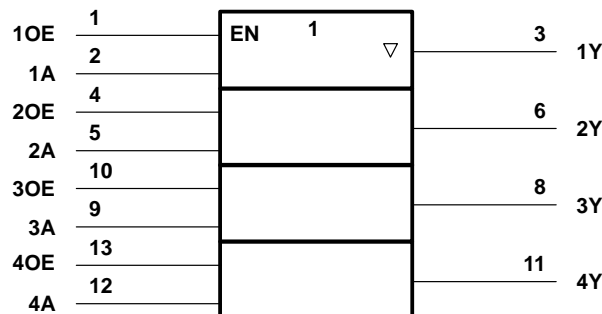
Inputs can be driven from either 3.3-V or 5-V devices. This feature allows the use of these devices as translators in a mixed 3.3-V/5-V system environment.

The SN74LVC126A is characterized for operation from -40°C to 85°C .

FUNCTION TABLE
(each buffer)

INPUTS		OUTPUT
OE	A	Y
H	H	H
H	L	L
L	X	Z

logic symbol†



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



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**TEXAS
INSTRUMENTS**

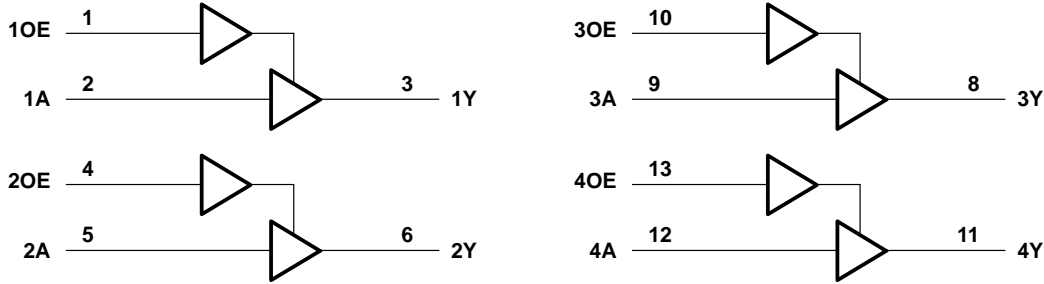
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PRODUCT PREVIEW

SN74LVC126A QUADRUPLE BUS BUFFER GATE WITH 3-STATE OUTPUTS SCAS339B – MARCH 1994 – REVISED SEPTEMBER 1996

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 6.5 V
Input voltage range, V_I (see Note 1)	–0.5 V to 6.5 V
Output voltage range, V_O (see Notes 1 and 2)	–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) (see Note 3): D package	1.25 W
DB or PW package	0.5 W
Storage temperature range, T_{stg}	–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.

- NOTES: 1. The input and output negative-voltage ratings may be exceeded if the input and output clamp-current ratings are observed.
2. The value of V_{CC} is provided in the recommended operating conditions table.
3. The maximum package power dissipation is calculated using a junction temperature of 150°C and a board trace length of 750 mils.
For more information, refer to the *Package Thermal Considerations* application note in the *ABT Advanced BiCMOS Technology Data Book*.

recommended operating conditions (see Note 4)

			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	5.5	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 4: Unused inputs must be held high or low to prevent them from floating.

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

PARAMETER	TEST CONDITIONS	V _{CC}	MIN	TYP†	MAX	UNIT
V _{OH}	I _{OH} = –100 μA	2.7 V to 3.6 V	V _{CC} –0.2			V
	I _{OH} = –12 mA	2.7 V	2.2			
		3 V	2.4			
	I _{OH} = –24 mA	3 V	2.2			
V _{OL}	I _{OL} = 100 μA	2.7 V to 3.6 V	0.2			V
	I _{OL} = 12 mA	2.7 V	0.4			
	I _{OL} = 24 mA	3 V	0.55			
I _I	V _I = 5.5 V or GND	3.6 V	±5			μA
I _{OZ}	V _O = V _{CC} or GND	3.6 V	±10			μA
I _{CC}	V _I = V _{CC} or GND, I _O = 0	3.6 V	10			μA
ΔI _{CC}	One input at V _{CC} – 0.6 V, Other inputs at V _{CC} or GND	2.7 V to 3.6 V	500			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

† All typical values are at V_{CC} = 3.3 V, T_A = 25°C.

PRODUCT PREVIEW



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