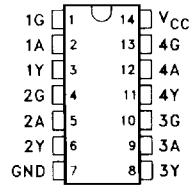
- **State-of-the-Art BICMOS Design Significantly Reduces I_{CCZ}**
- **High-Impedance State During Power-Up and Power-Down**
- **3-State Outputs Drive Bus Lines or Buffer Memory Address Registers**
- **ESD Protection Exceeds 2000 V Per MIL-STD-883C, Method 3015**
- **Package Options Include Plastic "Small Outline" Packages and Standard Plastic DIPs**

D or N PACKAGE
(TOP VIEW)

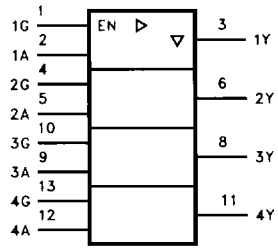


description

These bus buffers feature independent line drivers with three-state outputs. Each output is disabled when the associated G is high.

The SN64BCT126 is characterized for operation from −40°C to 85°C and 0°C to 70°C.

logic symbol†



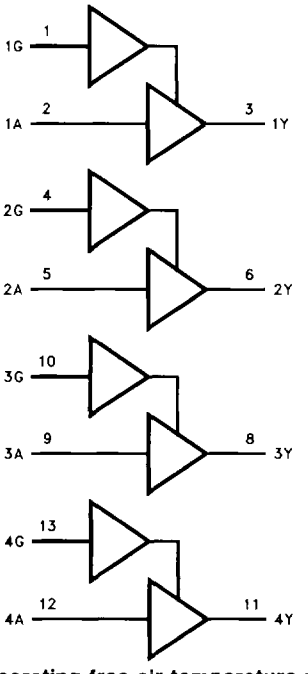
† These symbols are in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

FUNCTION TABLE

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

H = high level,
L = low level,
X = irrelevant

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 7 V
Input voltage range, V_I (see Note 1)	−0.5 V to 7 V
Voltage applied to any output in the disabled or power-off state	−0.5 V to 5.5 V
Voltage applied to any output in the high state	−0.5 V to V_{CC}
Current into any output in the low state	128 mA
Operating free-air temperature range	−40°C to 85°C
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: The input negative voltage rating may be exceeded if the input clamp current rating is observed.

recommended operating conditions

		MIN	NOM	MAX	UNIT
V_{CC}	Supply voltage	4.5	5	5.5	V
V_{IH}	High-level input voltage	2			V
V_{IL}	Low-level input voltage			0.8	V
I_{IK}	Input clamp current			18	mA
I_{OH}	High-level output current			15	mA
I_{OL}	Low-level output current			64	mA
T_A	Operating free-air temperature	40		85	°C

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

PARAMETER	TEST CONDITIONS		MIN	TYP†	MAX	UNIT
V_{IK}	V_{CC} = 4.5 V, I_I = −18 mA				1.2	V
V_{OH}	V_{CC} = 4.5 V	I_{OH} = −3 mA	2.4	3.3		V
		I_{OH} = −15 mA	2	3.1		
V_{OL}	V_{CC} = 4.5V	I_{OH} = 64 mA		0.42	0.55	V
I_{OZH}	V_{CC} = 0 V to 5.5 V, V_O = 2.7 V				50	mA
I_{OZL}	V_{CC} = 0 V to 5.5 V, V_O = 0.5 V				50	μA
I_{OZ}	$\overline{G}$ at 0.8 V, V_O = 2.7 V or 0.5 V	V_{CC} = 0 to 1.3 V (power up)			±50	μA
		V_{CC} = 1.3 V to 0 (power down)			±50	
I_I	V_{CC} = 0, V_I = 7 V				0.1	mA
I_{IH}	V_{CC} = 5.5 V, V_I = 2.7 V				25	μA
I_{IL}	V_{CC} = 5.5 V, V_I = 0.5 V				20	mA
I_{OS}‡	V_{CC} = 5.5 V, V_O = 0		100		225	mA
I_{CCL}	V_{CC} = 5.5 V			35	51	mA
I_{CCH}	V_{CC} = 5.5 V			21	33	mA
I_{CCZ}	V_{CC} = 5.5 V			5	8	mA
C_i	V_{CC} = 5 V, V_I = 2.5 V or 0.5 V			4		pF
C_o	V_{CC} = 5 V, V_O = 2.5 V or 0.5 V			9		pF

† All typical values are at V_{CC} = 5 V, T_A = 25°C.
‡ Not more than one output should be shorted at a time, and the duration of the short circuit should not exceed one second.

switching characteristics (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V_{CC} = 5 V, C_L = 50 pF, R1 = 500 Ω, R2 = 500 Ω			V_{CC} = 4.5 V to 5.5 V, C_L = 50 pF, R1 = 500 Ω, R2 = 500 Ω				UNIT
			T_A = 25°C			T_A = −40°C to 85°C		T_A = 0°C to 70°C		
			MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{PLH}	A	Y	1.5	3.6	4.9	1.5	5.6	1.5	5.4	ns
t_{PHL}			2.7	5.3	6.9	2.7	7.7	2.7	7.4	
t_{PZH}	$\overline{G}$	Y	2.6	4.8	6.4	2.6	7.2	2.6	10.7	ns
t_{PZL}			3.7	6.4	8.3	3.7	10.5	3.7	10	
t_{PHZ}	$\overline{G}$	Y	3.2	6.6	8.2	3.2	9.6	3.2	9.1	ns
t_{PLZ}			3.4	6.5	8	3.4	12.3	3.4	10.7	

§ For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.