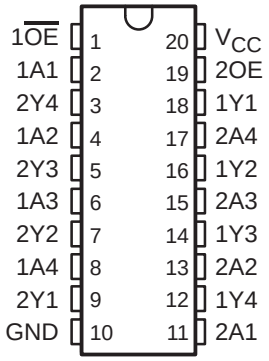
- **BiCMOS Design Significantly Reduces I_{CCZ}**
- **ESD Protection Exceeds 2000 V Per MIL-STD-883C, Method 3015; Exceeds 200 V Using Machine Model (C = 200 pF, R = 0)**
- **High-Impedance State During Power Up and Power Down**
- **Open-Collector Outputs Drive Bus Lines or Buffer-Memory Address Registers**
- **Package Options Include Plastic Small-Outline (DW) Packages and Standard Plastic and Ceramic 300-mil DIPs (N)**

DW OR N PACKAGE
(TOP VIEW)



description

This octal buffer and line driver is designed specifically to improve both the performance and density of 3-state memory address drivers, clock drivers, and bus-oriented receivers and transmitters. The device provides complementary output-enable (OE and $\overline{OE}$) inputs and noninverting outputs.

The SN64BCT757 is characterized for operation from –40°C to 85°C and 0°C to 70°C.

FUNCTION TABLES

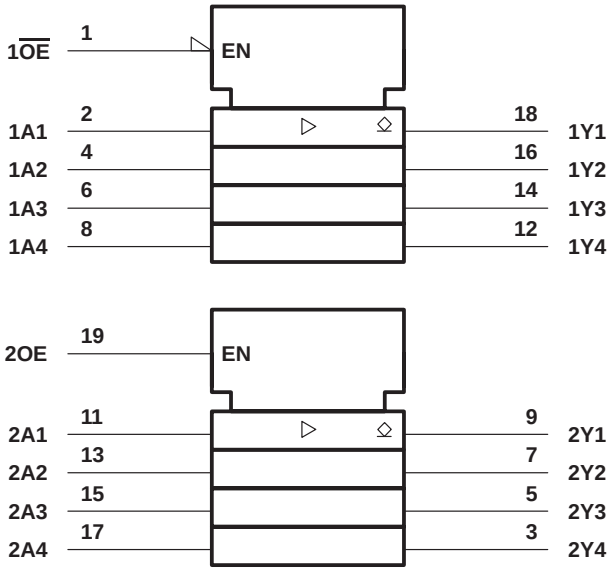
INPUTS		OUTPUT
$1\overline{OE}$	1A	1Y
H	X	H
L	L	L
L	H	H

INPUTS		OUTPUT
2OE	2A	2Y
L	X	H
H	L	L
H	H	H

PRODUCTION DATA information is 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.

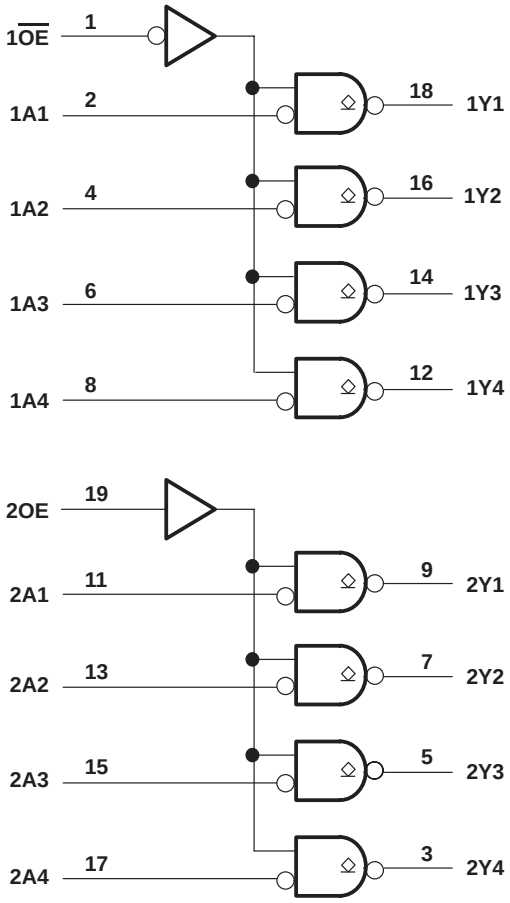
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logic symbol†



† 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 7 V
Input voltage range, V_I (see Note 1) . . . . . –0.5 V to 7 V
Voltage range applied to any output in the disabled or power-off state, V_O . . . . . –0.5 V to 5.5 V
Voltage range applied to any output in the high state, V_O . . . . . –0.5 V to V_{CC}
Input clamp current, I_{IK} (V_I < 0) . . . . . –30 mA
Current into any output in the low state, I_O . . . . . 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 ratings may be exceeded if the input clamp-current ratings are observed.

recommended operating conditions (see Note 2)

		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
V_{OH}	High-level output voltage			5.5	V
I_{IK}	Input clamp current			–18	mA
I_{OL}	Low-level output current			64	mA
$\Delta t/\Delta V_{CC}$	Power-up ramp rate	2			μs/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			MIN	TYP†	MAX	UNIT
V_{IK}	V_{CC} = 4.5 V,	I_I = –18 mA				–1.2	V
I_{OH}	V_{CC} = 4.5 V,	V_{OH} = 5.5 V				0.1	mA
V_{OL}	V_{CC} = 4.5 V,	I_{OL} = 64 mA			0.42	0.55	V
I_{OZ}	V_{CC} = 0 to 2.3 V (power up),	V_O = 2.7 V,	$\overline{OE}$ = 0.8 V or OE = 2 V			50	μA
I_{OZ}	V_{CC} = 1.8 V to 0 (power down),	V_O = 2.7 V,	$\overline{OE}$ = 0.8 V or OE = 2 V			50	μA
I_I	V_{CC} = 5.5 V,	V_I = 7 V				0.1	mA
I_{IH}	V_{CC} = 5.5 V,	V_I = 2.7 V				20	μA
I_{IL}	V_{CC} = 5.5 V,	V_I = 0.5 V				–1	mA
I_{CC}	V_{CC} = 5.5 V,	Outputs open	Outputs high			34	mA
			Outputs low			77	
			OE and $\overline{OE}$ inactive			10	
C_i	V_{CC} = 5 V,	V_I = 2.5 V or 0.5 V			6		pF
C_o	V_{CC} = 5 V,	V_O = 2.5 V or 0.5 V			4		pF

† All typical values are at V_{CC} = 5 V, T_A = 25°C.

switching characteristics over recommended range of supply voltage, C_L = 50 pF (unless otherwise noted) (see Note 3)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V_{CC} = 5 V, T_A = 25°C			T_A = –40°C to 85°C		T_A = 0°C to 70°C		UNIT
			MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{PLH}	A	Y	6.9	8.3	9.6	6.5	11.2	6.6	10.1	ns
t_{PHL}			2.4	4.2	6	1.9	7	2	6.6	
t_{PLH}	2OE	Y	11	14.8	17.9	10.4	21.3	10.8	19.7	ns
t_{PHL}			2.9	4.6	6.2	2.6	7.5	2.6	6.9	
t_{PLH}	$1\overline{OE}$	Y	11.4	13.9	16.1	8.9	19.9	10	18	ns
t_{PHL}			4.4	6.1	7.8	4	9.2	4	8.5	

NOTE 3: Load circuits and voltage waveforms are shown in Section 1.

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