

FEATURES

- Select one of eight data sources
- Perform parallel-to-serial conversion
- 25LS151 has complementary outputs
- 25LS151 has strobe input
- Higher Speed compared to 9LS/54LS and 9LS/74LS
- 8mA sink current over full military temperature range
- 50mV improved V_{OL} compared to 9LS/74LS
- 440 μ A source current
- 100% reliability assurance testing in compliance with MIL-STD-883

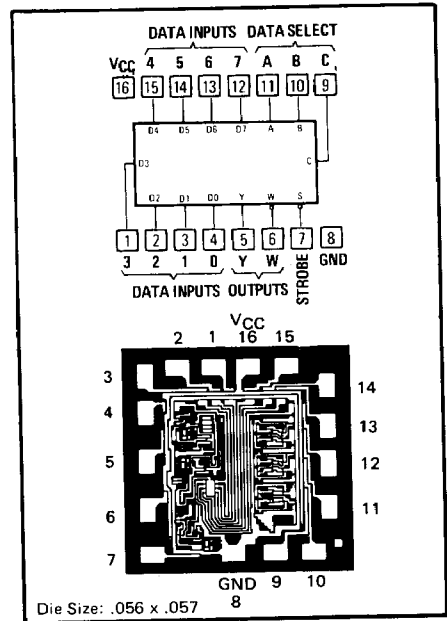
DESCRIPTION

These monolithic data selectors/multiplexers contain full on-chip binary decoding to select one-of-eight data sources. The 25LS151 has a strobe input which must be at a low logic level to enable the device. A high level at the strobe forces the W output high, and the Y output low.

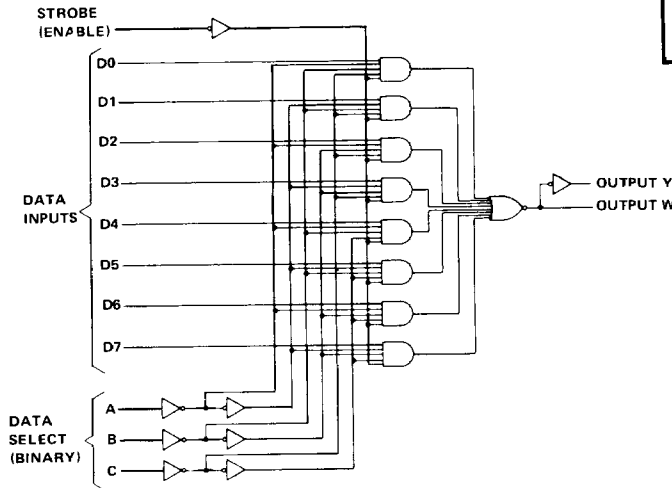
The 25LS151 features complementary Y and W outputs.

PIN-OUT DIAGRAMS

25LS151



LOGIC DIAGRAMS



25LS151
FUNCTION TABLE

INPUTS			OUTPUTS	
SELECT	STROBE		Y	W
C	B	A	S	
X	X	X	H	L
L	L	L	L	$\overline{D_0}$
L	L	H	L	$\overline{D_1}$
L	H	L	L	$\overline{D_2}$
L	H	H	L	$\overline{D_3}$
H	L	L	L	$\overline{D_4}$
H	L	H	L	$\overline{D_5}$
H	H	L	L	$\overline{D_6}$
H	H	H	L	$\overline{D_7}$

H = high level, L = low level, X = don't care
D0, D1 ... D7 = the level of the D respective input

Recommended Operating Conditions

	Military			Commercial			Unit
	Min	Nom	Max	Min	Nom	Max	
Supply voltage, V_{CC}	4.5	5	5.5	4.75	5	5.25	V
High-level output current, I_{OH}			-440			-440	μA
Low-level output current, I_{OL}	4		8	4		8	mA
Operating free-air temperature, T_A	-55		125	0		70	$^{\circ}C$

Electrical Characteristics Over Recommended Free-Air Temperature Range (Unless Otherwise Noted)

Parameter	Test Conditions*	Military			Commercial			Unit
		Min	Typ**	Max	Min	Typ**	Max	
V_{IH}		2			2			V
V_{IL}				0.7			0.8	V
V_I	$V_{CC} = \text{MIN}, I_I = -18\text{mA}$			-1.5			-1.5	V
V_{OH}	$V_{CC} = \text{MIN}, V_{IH} = 2\text{V}, V_{IL} = V_{IL \text{ max}}, I_{OH} = -440\mu A$	2.5	3.4		2.7	3.4		V
V_{OL}	$V_{CC} = \text{MIN}, V_{IH} = 2\text{V}, V_{IL} = V_{IL \text{ max}}$							V
	$I_{OL} = 4\text{mA}$		0.25	0.40			0.40	
	$I_{OL} = 8\text{mA}$		0.3	0.45		0.35	0.45	
I_I	$V_{CC} = \text{MAX}, V_I = 7\text{V}$			0.1			0.1	mA
I_{IH}	$V_{CC} = \text{MAX}, V_I = 2.7\text{V}$			20			20	μA
I_{IL}	$V_{CC} = \text{MAX}, V_I = 0.4\text{V}$			-0.4			-0.4	mA
$I_{OS} \dagger$	$V_{CC} = \text{MAX}$	-15		-85	-15		-85	mA
I_{CC}	$V_{CC} = \text{MAX},$ Outputs open All inputs at 4.5V		6.0	10		6.0	10	mA

*For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

**All typical values are at $V_{CC} = 5\text{V}, T_A = 25^{\circ}C$.

†Not more than one output should be shorted at a time.

Switching Characteristics, $V_{CC} = 5\text{V}, T_A = +25^{\circ}C$

Parameter	From (input)	To (output)	+25 $^{\circ}C$			Unit
			Min	Typ	Max	
Test Conditions: $C_L = 15\text{pF}, R_L = 2\text{k}\Omega$ (See Fig. A, page 2-174)						
t_{PLH}	A, B or C	Y		272	41	ns
t_{PLH}	(4 levels)			20	30	
t_{PLH}	A, B, or C	W		16	23	ns
t_{PLH}	(3 levels)			22	32	
t_{PLH}	Strobe	Y		22	33	ns
t_{PLH}				18	27	
t_{PLH}	Strobe	W		13	20	ns
t_{PLH}				17	26	
t_{PLH}	Any D	Y		17	26	ns
t_{PLH}				15	23	
t_{PLH}	Any D	W		10	15	ns
t_{PLH}				10	15	