

54/74150

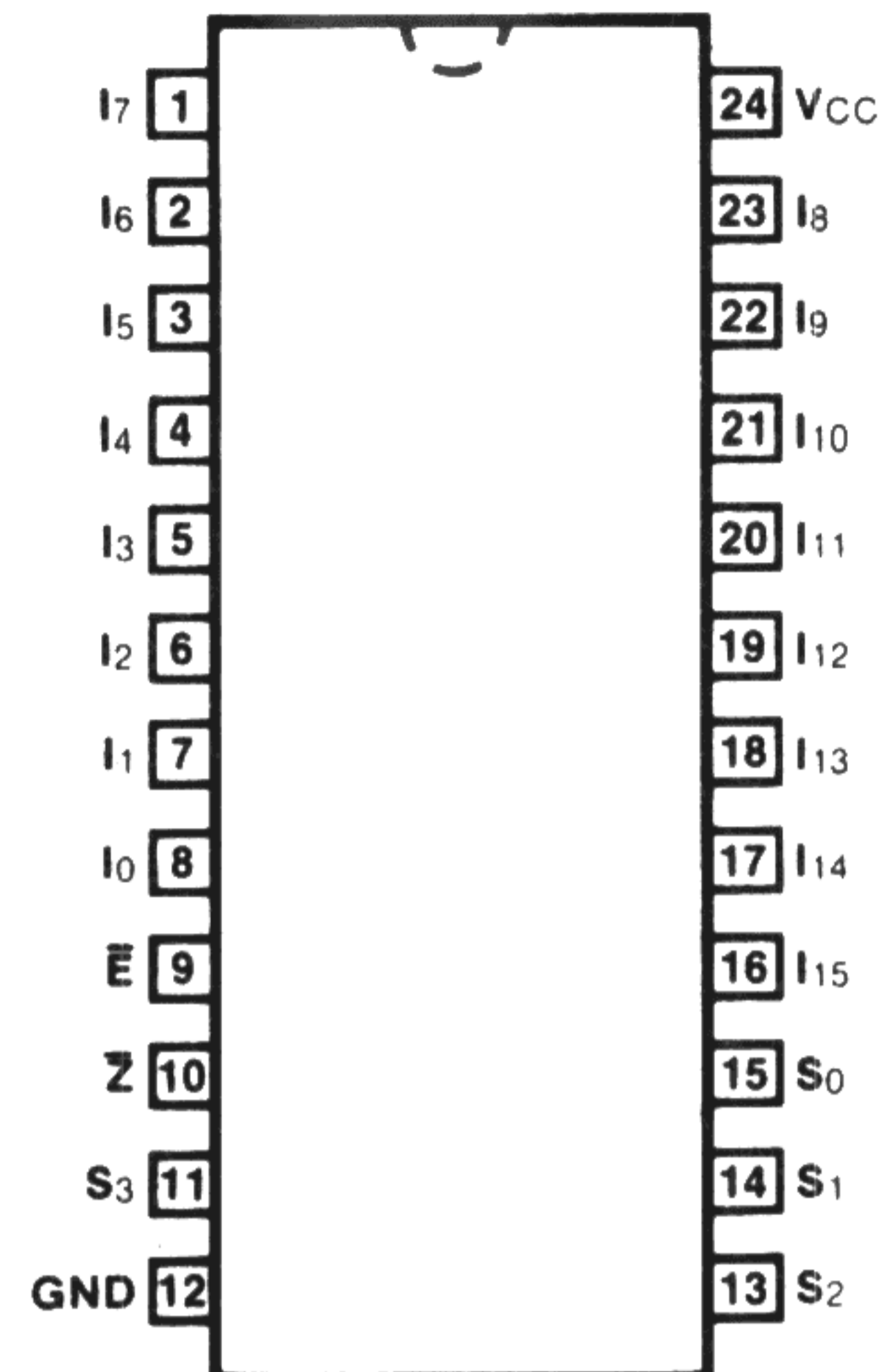
16-INPUT MULTIPLEXER

DESCRIPTION — Signals applied to the Select ($S_0 - S_3$) inputs determine which of the data inputs ($I_0 - I_{15}$) is routed through to the output. Data from the selected input appears at the output (Z) in inverted form. When the active-LOW Enable input is HIGH, the output will be HIGH, regardless of other input conditions.

ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		$V_{CC} = +5.0\text{ V} \pm 5\%$, $T_A = 0^\circ\text{C to } +70^\circ\text{C}$	$V_{CC} = +5.0\text{ V} \pm 10\%$, $T_A = -55^\circ\text{C to } +70^\circ\text{C}$	
Plastic DIP (P)	A	74150PC		9N
Ceramic DIP (D)	A	74150DC	54150DM	6N
Flatpak (F)	A	74150FC	54150FM	4M

CONNECTION DIAGRAM PINOUT A

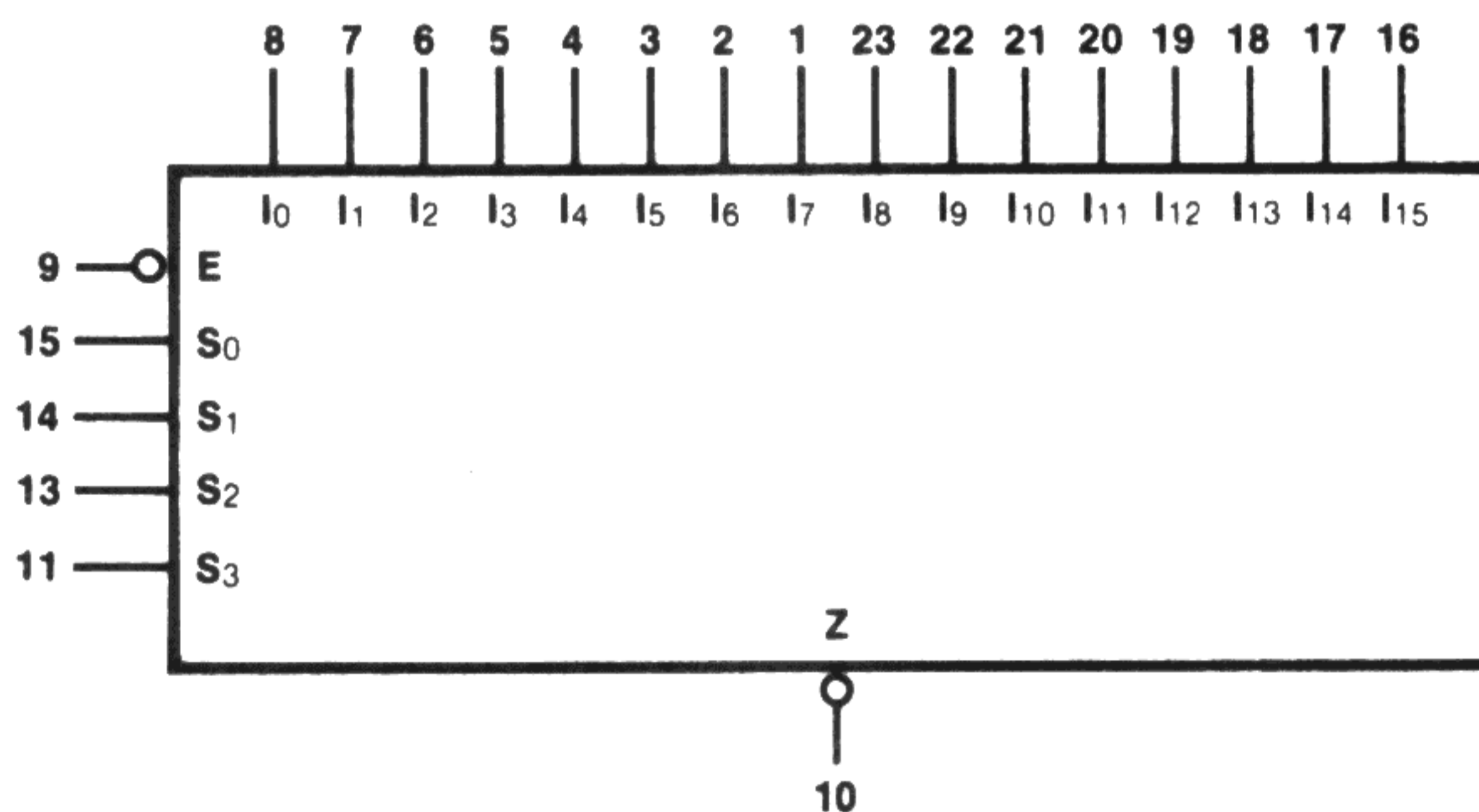


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INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

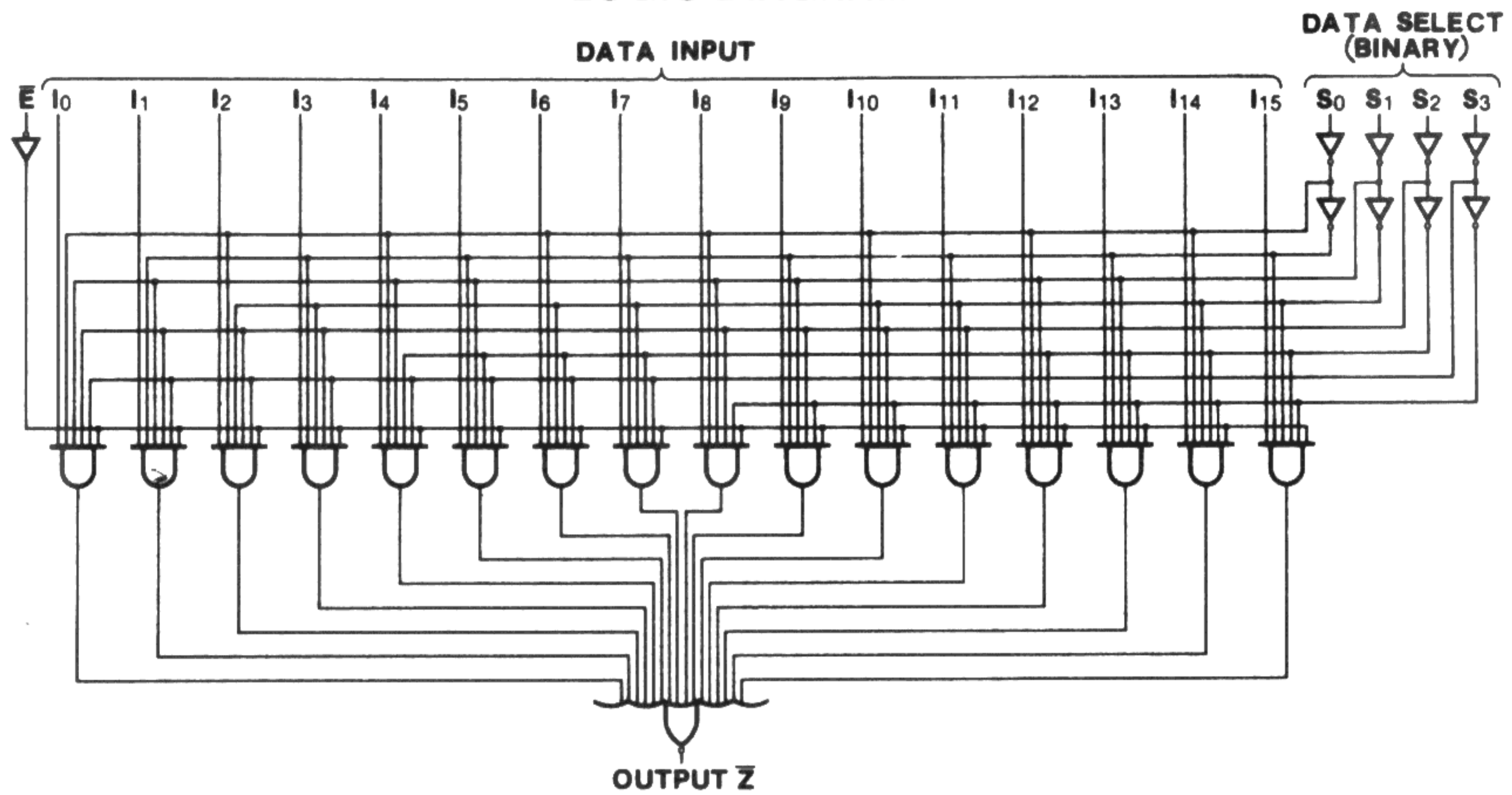
PIN NAMES	DESCRIPTION	54/74 (U.L.) HIGH/LOW
$I_0 - I_{15}$	Data Inputs	1.0/1.0
$S_0 - S_3$	Select Inputs	1.0/1.0
\bar{E}	Enable Input (Active LOW)	1.0/1.0
\bar{Z}	Inverted Data Output	20/10

LOGIC SYMBOL



$V_{CC} = \text{Pin } 24$
 $GND = \text{Pin } 12$

LOGIC DIAGRAM



TRUTH TABLE

INPUTS					OUTPUT
S ₃	S ₂	S ₁	S ₀	E	Z
X	X	X	X	H	H
L	L	L	L	L	I ₀
L	L	L	H	L	I ₁
L	L	H	L	L	I ₂
•	•	•	•	•	•
H	H	L	L	L	I ₁₂
H	H	L	H	L	I ₁₃
H	H	H	L	L	I ₁₄
H	H	H	H	L	I ₁₅

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H = HIGH Voltage Level
L = LOW Voltage Level
X = Immaterial

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER	54/74		UNITS	CONDITIONS	
		Min	Max			
I _{os}	Output Short Circuit Current	XM	-20	-55	mA	V _{CC} = Max
		XC	-18	-55		
I _{cc}	Power Supply Current		68	mA	V _{CC} = Max, V _{IN} = 4.5V	

AC CHARACTERISTICS: V_{CC} = +5.0 V, T_A = +25° C (See Section 3 for waveforms and load configurations)

SYMBOL	PARAMETER	54/74		UNITS	CONDITIONS
		C _L = 15 pF R _L = 400 Ω			
		Min	Max		
t _{PLH} t _{PHL}	Propagation Delay S _n to Z̄, 3 Levels		35 33	ns	Figs. 3-1, 3-20
t _{PLH} t _{PHL}	Propagation Delay I _n to Z̄		20 14	ns	Figs. 3-1, 3-4
t _{PLH} t _{PHL}	Propagation Delay Ē to Z̄		24 30	ns	Figs. 3-1, 3-5