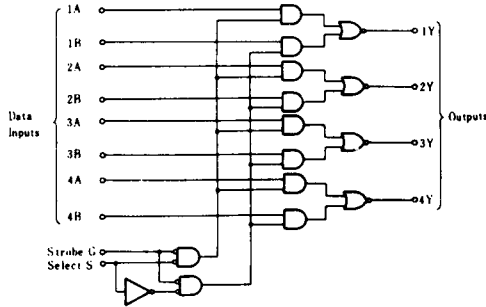


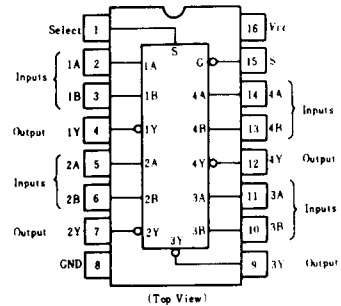
HD74LS158 • Quadruple 2-line-to-1-line Data Selectors/Multiplexers (inverted outputs)

This data selector/multiplexer contains inverters and drivers to supply full on-chip data selection to the four output gates. A separate strobe input is provided. A 4-bit word is selected from one of two sources and is routed to the four outputs. Then, outputs present inverted data to minimize propagation delay time.

■ BLOCK DIAGRAM



■ PIN ARRANGEMENT



■ FUNCTION TABLE

Inputs					Output
Strobe	Select	A	B	Y	
H	X	X	X	H	
L	L	L	X	H	
L	L	H	X	L	
L	H	X	L	H	
L	H	X	H	L	

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

■ ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$)

Item	Symbol	Test Conditions	min	typ*	max	Unit
Input voltage	V_{IH}		2.0	—	—	V
	V_{IL}		—	—	0.8	V
Output voltage	V_{OH}	$V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V}, V_{IL} = 0.8\text{V}, I_{OH} = -400\mu\text{A}$	2.7	—	—	V
	V_{OL}	$V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V}, V_{IL} = 0.8\text{V}, I_{OL} = 4\text{mA}$	—	—	0.4	V
		$V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V}, V_{IL} = 0.8\text{V}, I_{OL} = 8\text{mA}$	—	—	0.5	V
Input current	I_{IH}	$V_{CC} = 5.25\text{V}, V_I = 2.7\text{V}$	—	—	40	μA
			—	—	20	μA
	I_{IL}	$V_{CC} = 5.25\text{V}, V_I = 0.4\text{V}$	—	—	-0.8	mA
			—	—	-0.4	mA
	I_I	$V_{CC} = 5.25\text{V}, V_I = 7\text{V}$	—	—	0.2	mA
—			—	0.1	mA	
Short-circuit output current	I_{OS}	$V_{CC} = 5.25\text{V}$	-20	—	-100	mA
Supply current **	I_{CC}	$V_{CC} = 5.25\text{V}$	—	4.8	8	mA
Input clamp voltage	V_{IK}	$V_{CC} = 4.75\text{V}, I_{IN} = -18\text{mA}$	—	—	-1.5	V

* $V_{CC} = 5\text{V}, T_a = 25^\circ\text{C}$

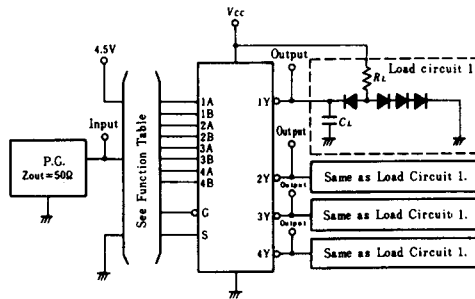
** I_{CC} is measured with all outputs open and all inputs at 4.5V.

SWITCHING CHARACTERISTICS ($V_{CC}=5V$, $T_a=25^\circ C$)

Item	Symbol	Inputs	Output	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	Data	Y	$C_L=15pF$; $R_L=2k\Omega$	—	7	12	ns
	t_{PHL}				—	7	12	
	t_{PLH}	Strobe	Y		—	11	17	ns
	t_{PHL}				—	12	18	
	t_{PLH}	Select	Y		—	13	20	ns
	t_{PHL}				—	16	24	

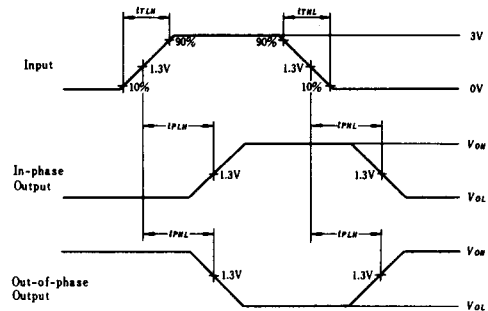
TESTING METHOD

1) Test Circuit



- Notes) 1. C_L includes probe and jig capacitance.
 2. All diodes are 1S2074 (H).

Waveform



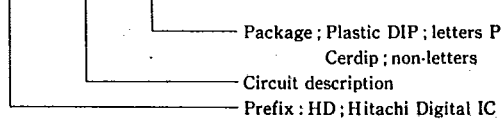
Input pulse; $t_{TLH} \leq 15ns$, $t_{THL} \leq 6ns$,
 $PRR=1MHz$, duty cycle 50%.

PACKAGING INFORMATION

T-90-20

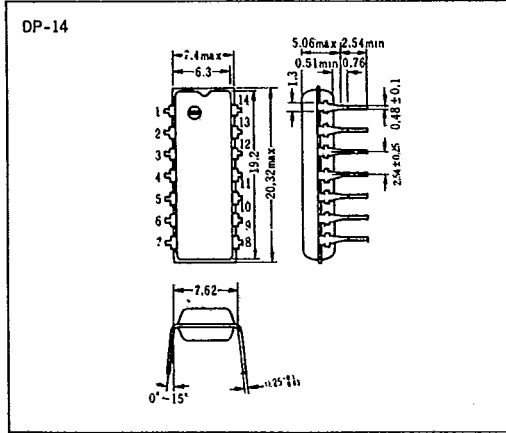
Factory orders for circuits described in this databook should include a three-part type number as explained in the following example.

HD 74LS00 P

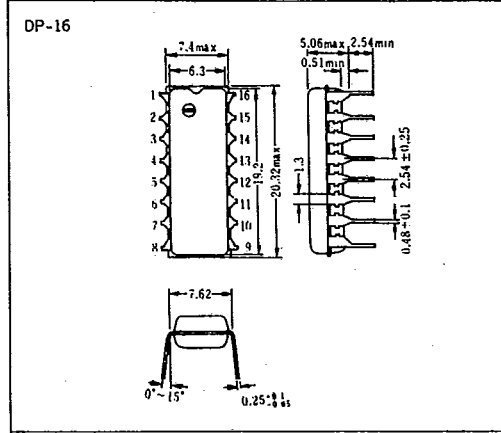


■ Plastic DIP

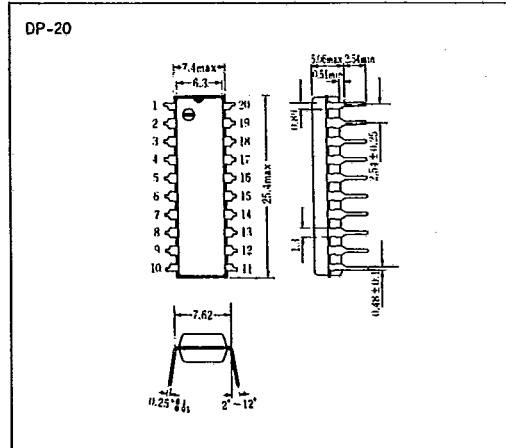
● 14 Pin



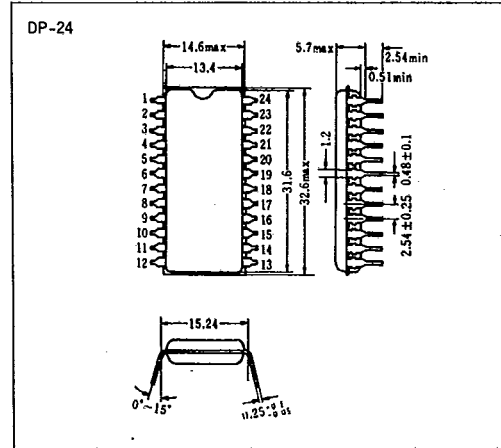
● 16 Pin



● 20 Pin



● 24 Pin

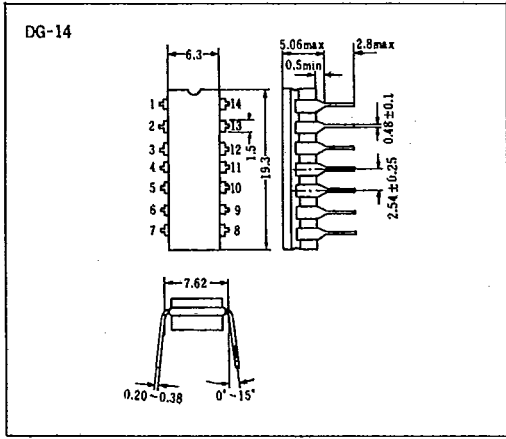


T-90-20

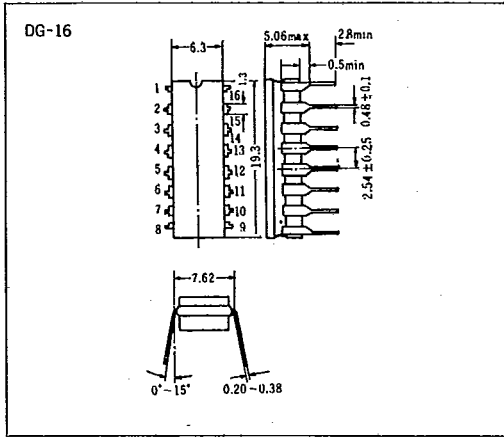
PACKAGING INFORMATION

■ Cerdip

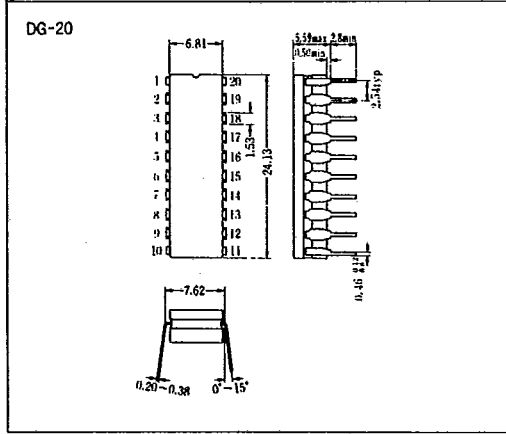
● 14 Pin



● 16 Pin



● 20 Pin



● 24 Pin

