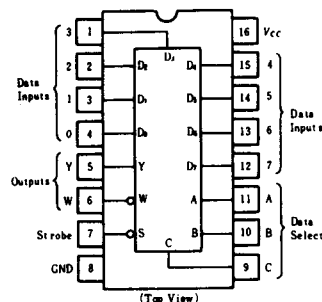


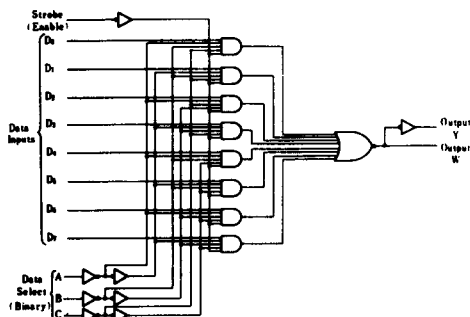
HD74LS151 • 1-of-8 Data Selectors/Multiplexers (with strobe)

This data selector/multiplexer contains full-on chip binary decoding to select the desired data source. The HD74LS151 selects one-of-eight data sources and has a strobe input which must be at a low logic level to enable this device. A high level at the strobe forces the W output high, and the Y output low.

PIN ARRANGEMENT



BLOCK DIAGRAM



FUNCTION TABLE

Inputs				Outputs	
SELECT			STROBE S	Y	W
C	B	A			
X	X	X	H	L	H
L	L	L	L	D ₀	$\bar{D}_0$
L	L	H	L	D ₁	$\bar{D}_1$
L	H	L	L	D ₂	$\bar{D}_2$
L	H	H	L	D ₃	$\bar{D}_3$
H	L	L	L	D ₄	$\bar{D}_4$
H	L	H	L	D ₅	$\bar{D}_5$
H	H	L	L	D ₆	$\bar{D}_6$
H	H	H	L	D ₇	$\bar{D}_7$

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}	$V_{CC}=4.75\text{V}$, $V_{IH}=2\text{V}$, $I_{OL}=4\text{mA}$	—	—	0.4	V
		$V_{IL}=0.8\text{V}$, $I_{OL}=8\text{mA}$	—	—	0.5	
Input current	I_I	$V_{CC}=5.25\text{V}$, $V_I=7\text{V}$	—	—	0.1	mA
	I_{IH}	$V_{CC}=5.25\text{V}$, $V_I=2.7\text{V}$	—	—	20	μA
	I_{IL}	$V_{CC}=5.25\text{V}$, $V_I=0.4\text{V}$	—	—	-0.4	mA
Short-circuit output current	I_{OS}	$V_{CC}=5.25\text{V}$	-20	—	-100	mA
Supply current **	I_{CC}	$V_{CC}=5.25\text{V}$	—	6.0	10.0	mA
Input clamp voltage	V_{IK}	$V_{CC}=4.75\text{V}$, $I_{IN}=-18\text{mA}$	—	—	-1.5	V

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

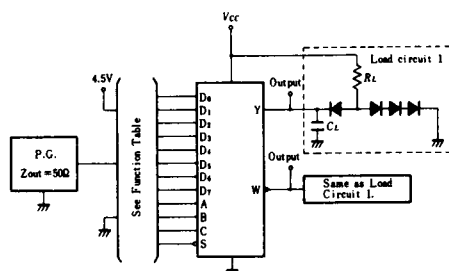
** I_{CC} is measured with all outputs open and all inputs at 4.5V.

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

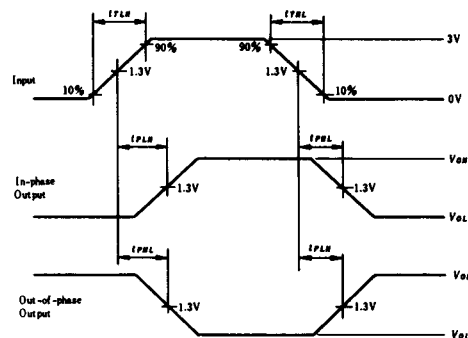
Item	Symbol	Inputs	Outputs	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	A, B, C	Y	$C_L = 15pF$, $R_L = 2k\Omega$	—	27	43	ns
	t_{PHL}	(4 Level)	Y		—	18	30	
	t_{PLH}	A, B, C	W		—	14	23	
	t_{PHL}	(3 Level)	W		—	20	32	
	t_{PLH}	Strobe	Y		—	26	42	
	t_{PHL}	Strobe	Y		—	20	32	
	t_{PLH}	Strobe	W		—	15	24	
	t_{PHL}	Strobe	W		—	18	30	
	t_{PLH}	D	Y		—	20	32	
	t_{PHL}	D	Y		—	16	26	
	t_{PLH}	D	W		—	13	21	
	t_{PHL}	D	W		—	12	20	

■TESTING METHOD

1) Test Circuit



Waveform



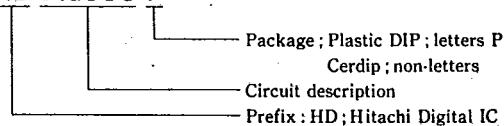
- Notes) 1. Input pulse; $t_{PLH} \leq 15ns$, $t_{PHL} \leq 6ns$, $PRR=1MHz$, duty cycle=50%
 2. C_L includes probe and jig capacitance.
 3. All diodes are 1S2074 (P).

PACKAGING INFORMATION

T-90-20

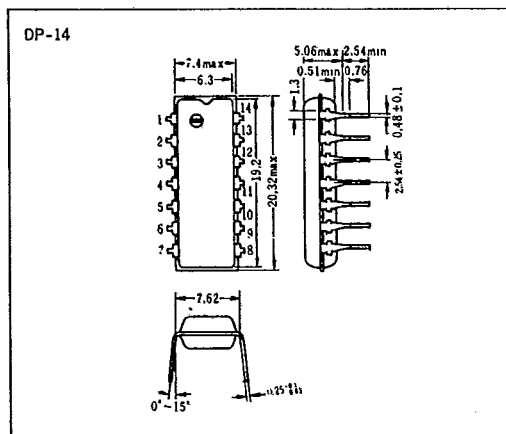
Factory orders for circuits described in this databook should include a three-part type number as explained in the following example.

HD 74LS00 P

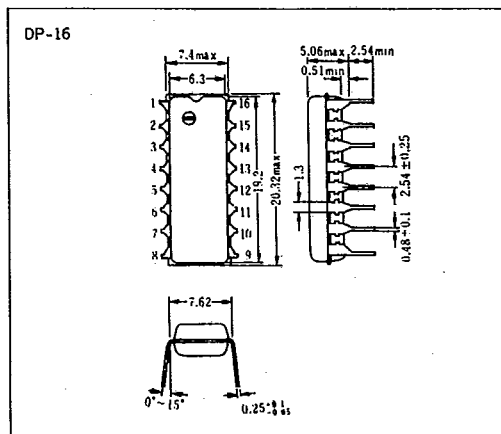


■ Plastic DIP

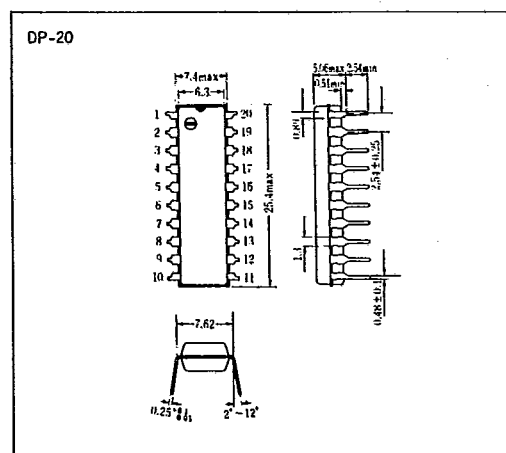
● 14 Pin



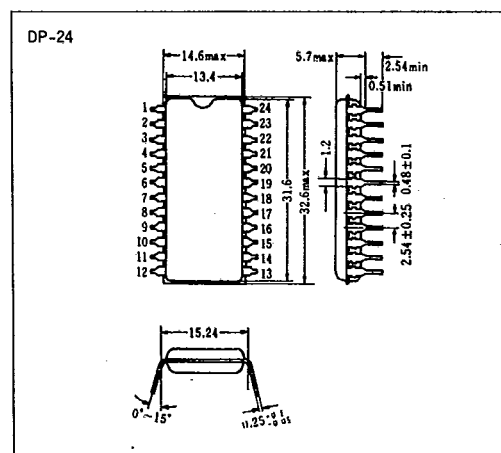
● 16 Pin



● 20 Pin



● 24 Pin



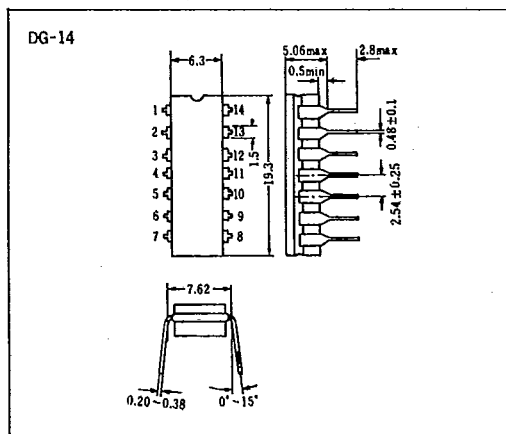
Hitachi America Ltd. • 2210 O'Toole Ave. • San Jose, CA 95131 • (408) 435-8300

T-90-20

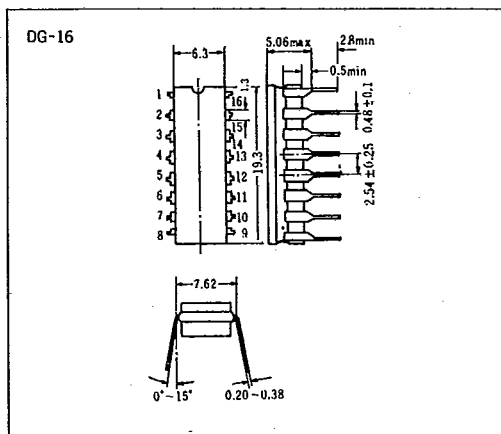
PACKAGING INFORMATION

■Cerdip

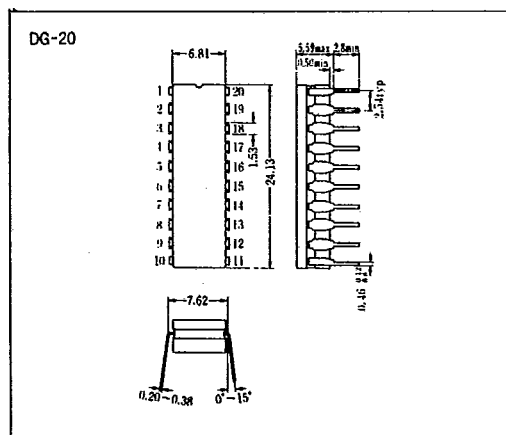
●14 Pin



●16 Pin



●20 Pin



●24 Pin

