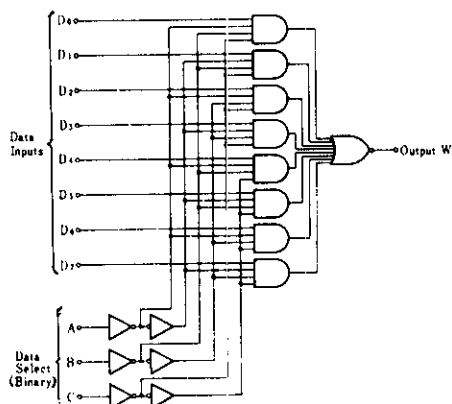


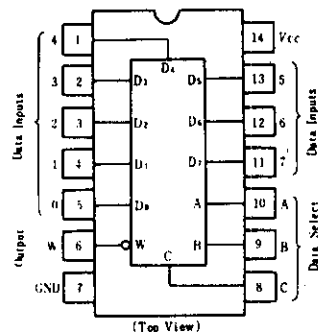
HD74LS152 • 1-of-8 Data Selectors/Multiplexers

This data selector/multiplexer contains full-on-chip binary decoding to select the desired data source. The HD74LS152 selects one-of-eight data sources.

■ BLOCK DIAGRAM



■ PIN ARRANGEMENT



■ FUNCTION TABLE

Select inputs			Output	Select inputs			Output
C	B	A	W	C	B	A	W
L	L	L	$\bar{D}_0$	H	L	L	$\bar{D}_4$
L	L	H	$\bar{D}_1$	H	L	H	$\bar{D}_5$
L	H	L	$\bar{D}_2$	H	H	L	$\bar{D}_6$
L	H	H	$\bar{D}_3$	H	H	H	$\bar{D}_7$

Notes) $\bar{D}_0 \sim \bar{D}_7$; the level of the D respective input
H; high level
L; low level

■ 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}	$V_{CC} = 4.75\text{V}$, $I_{OH} = -400\mu\text{A}$, $V_{IH} = 2\text{V}$, $V_{IL} = 0.8\text{V}$	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
		$I_{OL} = 8\text{mA}$	—	—	0.5	
Input current	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
	I_I	$V_{CC} = 5.25\text{V}$, $V_I = 7\text{V}$	—	—	0.1	mA
Short-circuit output current	I_{OS}	$V_{CC} = 5.25\text{V}$	-20	—	-100	mA
Supply current **	I_{CC}	$V_{CC} = 5.25\text{V}$	—	6.0	10	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.

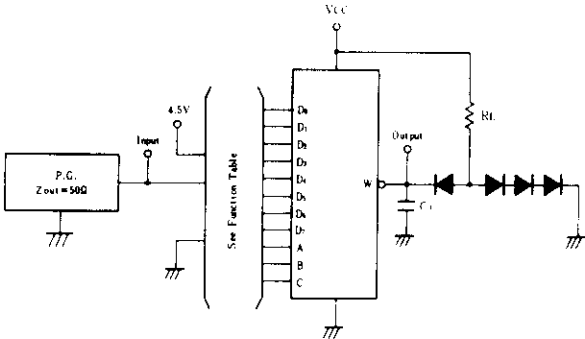
HD74LS152

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

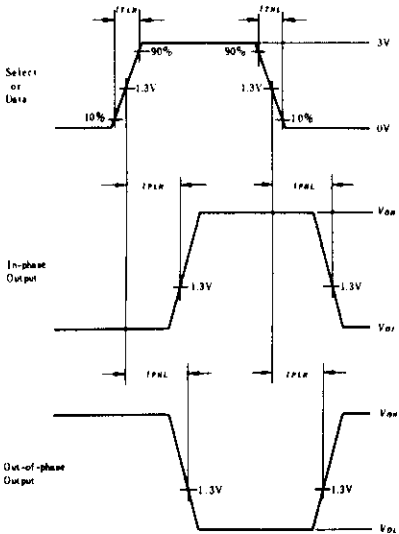
Item	Symbol	Inputs	Outputs	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	A, B, C	W	$C_L=15\text{pF}, R_L=2\text{k}\Omega$	—	14	23	ns
	t_{PHL}				—	20	32	
	t_{PLH}	Data	W		—	13	21	
	t_{PHL}				—	12	20	

TESTING METHOD

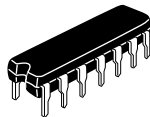
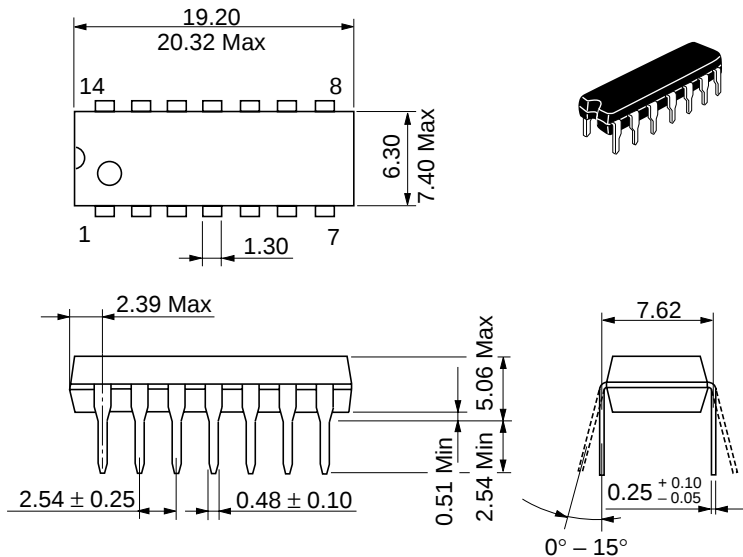
1) Test Circuit



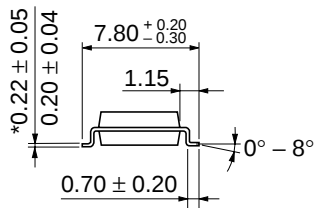
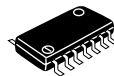
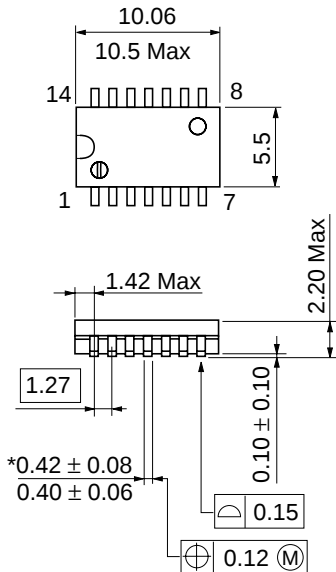
Waveform



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

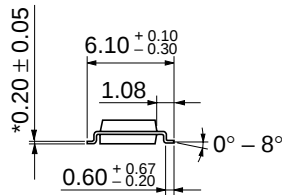
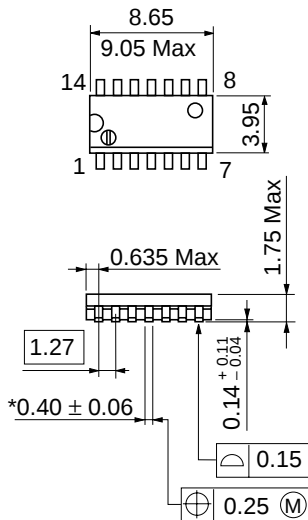


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.23 g

*Dimension including the plating thickness
Base material dimension



Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
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