

DN74LS367A

Hex Bus Drivers (with 3-state Outputs)

Description

DN74LS367A contains six 3-state output buffer circuits with common output-control inputs $\overline{G}_1$ and G_2 for four circuits and two circuits respectively.

Features

- Common output-control inputs four circuits and two circuits respectively
- High fan-out ($I_{OL} = 24\text{mA}$, $I_{OH} = -2.6\text{mA}$)
- Wide operating temperature range ($T_a = -20$ to $+75^\circ\text{C}$)

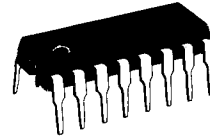
Truth tables

Inputs		Outputs
$\overline{G}$	A	Y
L	L	L
L	H	H
H	X	Z

Notes

1. H: HIGH voltage level.
2. L: LOW voltage level.
3. X: Either HIGH or LOW; doesn't matter.
4. Z: High impedance.

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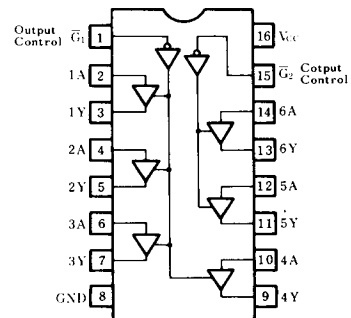
16-pin plastic DIL package

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16-pin Panaflat package (SO-16D)

Pin configuration (top view)



Recommended operating conditions

Parameter	Sym	Min	Typ	Max	Unit
Supply voltage	V_{CC}	4.75	5.00	5.25	V
Output current	I_{OH}			-2.6	mA
	I_{OL}			24	mA
Operating temperature range	T_{opr}	-20	25	75	$^\circ\text{C}$

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

Parameter	Sym	Test conditions	Min	Typ*	Max	Unit
Input voltage	V_{IH}		2.0			V
	V_{IL}				0.8	V
Output voltage	V_{OH}	$V_{CC} = 4.75\text{V}$, $V_{IH} = 2\text{V}$ $V_{IL} = 0.8\text{V}$, $I_{OH} = -2.6\text{mA}$	2.4	3.1		V
	V_{OL1}	$V_{CC} = 4.75\text{V}$ $V_{IH} = 2\text{V}$ $V_{IL} = 0.8\text{V}$		0.25	0.4	V
	V_{OL2}			0.35	0.5	V
Output current	I_{OZH}	$V_{CC} = 5.25\text{V}$ $V_{IH} = 2\text{V}$ $V_{IL} = 0.8\text{V}$			20	μA
	I_{OZL}				-20	μA
Input current	I_{IH}	$V_{CC} = 5.25\text{V}$, $V_{IH} = 2.7\text{V}$			20	μA
	I_{IL}	$V_{CC} = 5.25\text{V}$, either $\bar{G}$ input = 2V, $V_I = 0.5\text{V}$,			-20	μA
		$V_{CC} = 5.25\text{V}$, both $\bar{G}$ inputs = 0.4V $V_I = 0.4\text{V}$,			-0.4	mA
		$V_{CC} = 5.25\text{V}$, $V_I = 0.4\text{V}$			-0.4	mA
	I_I	$V_{CC} = 5.25\text{V}$, $V_I = 7\text{V}$			0.1	mA
Output short circuit current**	I_{OS}	$V_{CC} = 5.25\text{V}$, $V_O = 0\text{V}$	-15		-130	mA
Input clamp voltage	V_{IK}	$V_{CC} = 4.75\text{V}$, $I_I = -18\text{mA}$			-1.5	V
Supply current***	I_{CC}	$V_{CC} = 5.25\text{V}$		14	24	mA

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

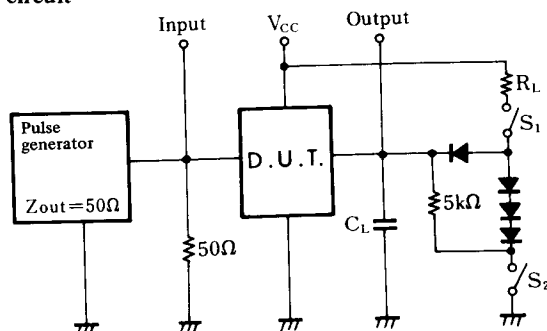
** Only one output at a time short circuited to GND. also, short circuit time to GND within 1 second

*** Measured with all outputs open, all inputs grounded, and 4.5V applied to all $\bar{G}$ inputs.■ Switching characteristics ($V_{CC} = 5\text{V}$, $T_a = 25^\circ\text{C}$)

Parameter	Sym	Test conditions	Min	Typ	Max	Unit
Propagation delay time	t_{PLH}	$C_L = 45\text{pF}$ $R_L = 667\Omega$		10	16	ns
	t_{PHL}			9	22	ns
Output enable time	t_{PZH}	$C_L = 5\text{pF}$ $R_L = 667\Omega$		19	35	ns
	t_{PZL}			24	40	ns
Output disable time	t_{PHZ}	$C_L = 5\text{pF}$ $R_L = 667\Omega$			30	ns
	t_{PLZ}				35	ns

※ Switching parameter measurement information

1. Measurement circuit

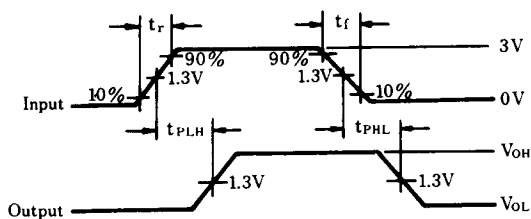


Notes

1. C_L includes probe and tool floating capacitance.
2. Diodes are all MA161.

2. Waveforms

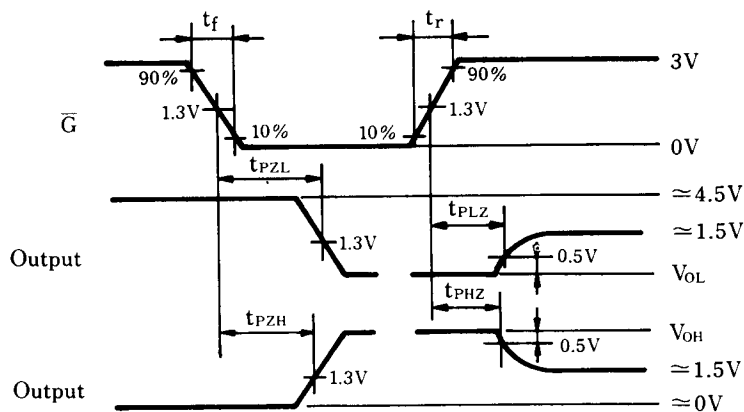
Waveforms-1



Notes

1. Input waveform: $t_r \leq 15\text{ns}$, $t_f \leq 6\text{ns}$, PRR = 1MHz, duty cycle = 50%.

Waveforms-2



Notes

1. Input waveform: $t_r \leq 15\text{ns}$, $t_f \leq 6\text{ns}$