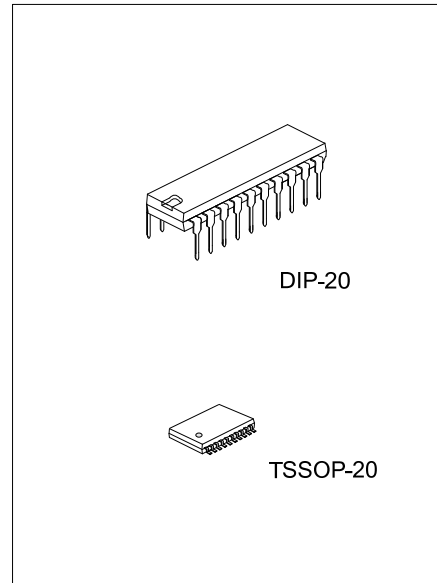




U74HCT541

CMOS IC

OCTAL BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS



DESCRIPTION

The **U74HCT541** is octal buffers and line drivers are with 3-state outputs and 8 channels.

The 3-state control gate is a 2-input NOR. If either output-enable ($\overline{OE1}$ or $\overline{OE2}$) input is high, all eight outputs are in the high-impedance state. The **U74HCT541** devices provide true data at the outputs.

FEATURES

- * Operating Voltage Range of 4.5V to 5.5V
- * High-Current 3-State Outputs Interface Directly With System Bus or Can Drive Up To 15 LSTTL Loads
- * Low Power Consumption I_{CC} : 4 μ A (Max.)
- * Typical t_{pd} =13ns
- * ± 6 mA Output Drive at 5V
- * Low Input Current of 1uA max
- * Inputs Are TTL-Voltage Compatible
- * Data Flow-Through Pinout (All Inputs on Opposite Side From Outputs)

ORDERING INFORMATION

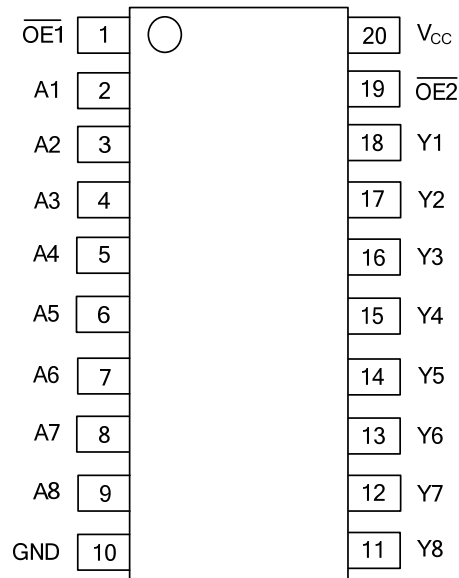
Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74HCT541L-D20-T	U74HCT541G-D20-T	DIP-20	Tube
U74HCT541L-P20-R	U74HCT541G-P20-R	TSSOP-20	Tape Reel

<p>U74HCT541G-D20-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) D20: DIP-20, P20: TSSOP-20 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
--	---

MARKING

DIP-20	TSSOP-20
<p>20 19 18 17 16 15 14 13 12 11 UTC □□□□ U74HCT541 □ □□ 1 2 3 4 5 6 7 8 9 10</p> <p>→ Date Code → L: Lead Free → G: Halogen Free → Lot Code</p>	<p>20 19 18 17 16 15 14 13 12 11 UTC □□□□ U74HCT541 □ □□ 1 2 3 4 5 6 7 8 9 10</p> <p>→ Date Code → L: Lead Free → G: Halogen Free → Lot Code</p>

■ PIN CONFIGURATION

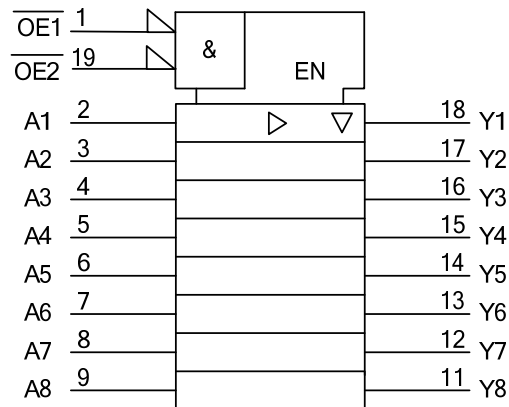


■ FUNCTION TABLE

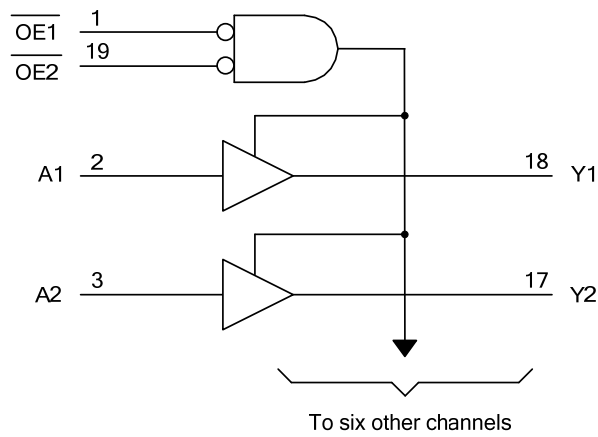
INPUTS($\overline{OE1}$)	INPUTS($\overline{OE2}$)	INPUTS(A)	OUTPUT(Y)
L	L	L	L
L	L	H	H
H	X	X	Z
X	H	X	Z

Note: H: HIGH Voltage Level L: LOW Voltage Level Z: High Impedance X: Don' Care

■ LOGIC SYMBOL



■ LOGIC DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.5 ~ 7	V
Input Voltage	V_{IN}	-0.5 ~ 7	V
V_{CC} or GND Current	I_{CC}	±70	mA
Output Current	I_{OUT}	±35	mA
Input Clamp Current	I_{IK}	±20	mA
Output Clamp Current	I_{OK}	±20	mA
Operating Temperature	T_A	-40 ~ + 85	°C
Storage Temperature	T_{STG}	-65 ~ + 150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	DIP-20	69	°C/W
	TSSOP-20	83	°C/W

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}		4.5	5	5.5	V
High-level Input Voltage	V_{IH}	$V_{CC}=4.5V\sim 5.5V$	2			V
Low-level Input Voltage	V_{IL}	$V_{CC}=4.5V\sim 5.5V$			0.8	V
Input Voltage	V_{IN}		0		V_{CC}	V
Output Voltage	V_{OUT}		0		V_{CC}	V
Input transition Rise or Fall rate	$\Delta t/\Delta v$				500	ns

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
High-Level Output Voltage	V_{OH}	$V_{CC}=4.5V, V_I=V_{IH}$ or $V_{IL}, I_{OH}=-20\mu A$	4.4	4.499		V
		$V_{CC}=5.5V, V_I=V_{IH}$ or $V_{IL}, I_{OH}=-20\mu A$	5.4	5.499		
		$V_{CC}=4.5V, V_I=V_{IH}$ or $V_{IL}, I_{OH}=-6mA$	3.98	4.3		
Output Voltage Low-Level	V_{OL}	$V_{CC}=4.5V, V_I=V_{IH}$ or $V_{IL}, I_{OL}=20\mu A$		0.001	0.1	V
		$V_{CC}=5.5V, V_I=V_{IH}$ or $V_{IL}, I_{OL}=20\mu A$		0.001	0.1	
		$V_{CC}=4.5V, V_I=V_{IH}$ or $V_{IL}, I_{OL}=6mA$		0.17	0.26	
Input Leakage Current	$I_{I(LEAK)}$	$V_{CC}=5.5V, V_{IN}=V_{CC}$ or GND		±0.1	±100	nA
3-state Output Off-state Current	I_{OZ}	$V_{CC}=5.5V, V_{OUT}=V_{CC}$ or GND, $V_I=V_{IH}$ or V_{IL}		±0.01	±0.5	µA
Quiescent Supply Current	I_{CC}	$V_{CC}=5.5V, V_{IN}=V_{CC}$ or GND, $I_{OUT}=0$			4	µA
Additional Quiescent Device Current Per Input Pin	ΔI_{CC}	$V_{CC}=5.5V$, One input at 0.5V or 2.4V Other inputs at 0 or V_{CC}		1.4	2.4	mA
Input Capacitance	C_I	$V_{CC}=4.5V\sim 5.5V$		3	10	pF

■ SWITCHING CHARACTERISTICS ($C_L=50pF, T_A=25^\circ C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
From A to Y	t_{PLH}/t_{PHL}	$V_{CC}=4.5V$		13	23	ns
		$V_{CC}=5.5V$		13	21	
From \overline{OE} to Y	t_{PZL}/t_{PZH}	$V_{CC}=4.5V$		21	30	ns
		$V_{CC}=5.5V$		19	27	
From \overline{OE} to Y	t_{PLZ}/t_{PHZ}	$V_{CC}=4.5V$		19	30	ns
		$V_{CC}=5.5V$		18	27	

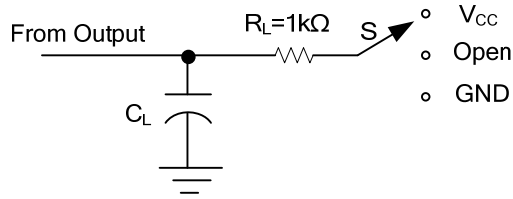
■ SWITCHING CHARACTERISTICS ($C_L=150\text{pF}$, $T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Y	t_t	$V_{CC}=4.5\text{V}$		8	12	ns
		$V_{CC}=5.5\text{V}$		7	11	
From A to Y	t_{PLH}/t_{PHL}	$V_{CC}=4.5\text{V}$		20	33	ns
		$V_{CC}=5.5\text{V}$		19	30	
From $\overline{\text{OE}}$ to Y	t_{PZL}/t_{PZH}	$V_{CC}=4.5\text{V}$		26	40	ns
		$V_{CC}=5.5\text{V}$		25	36	
Y	t_t	$V_{CC}=4.5\text{V}$		17	42	ns
		$V_{CC}=5.5\text{V}$		14	38	

■ OPERATING CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

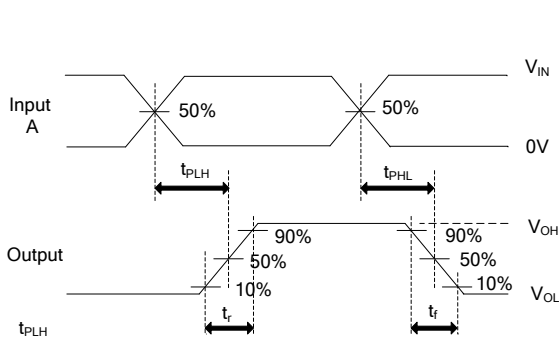
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance Per buffer/driver	C_{PD}	No Load		35		pF

■ TEST CIRCUIT AND WAVEFORMS

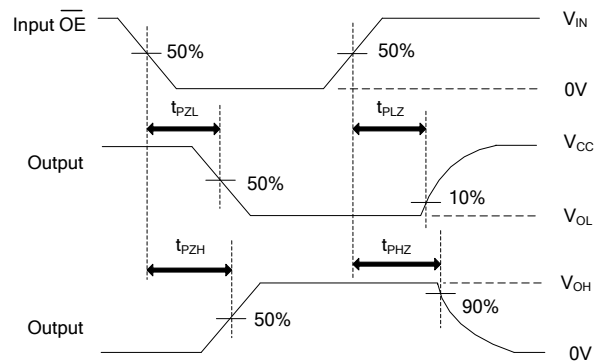


TEST	S
t_{PLH}/t_{PHL}	Open
t_{PHZ}/t_{PZH}	GND
t_{PLZ}/t_{PZL}	V_{CC}

TEST CIRCUIT



PROPAGATION DELAY TIMES



ENABLE AND DISABLE TIMES

- Notes: 1. C_L includes probe and test-fixture capacitance.
 2. All input pulses are supplied by generators having the following characteristics: $PRR \leq 1MHz$, $Z_o = 50\Omega$, $t_r = 6ns$, $t_f = 6ns$.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

单击下面可查看定价，库存，交付和生命周期等信息

[>>UTC\(友顺\)](#)