



U74AHC2G126

CMOS IC

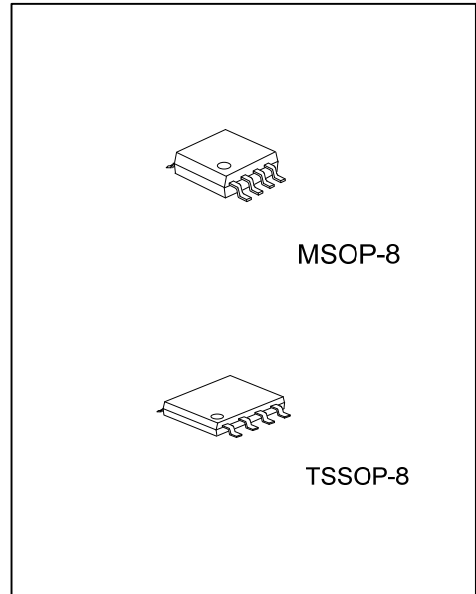
DUAL BUS BUFFER GATE WITH 3-STATE OUTPUTS

DESCRIPTION

The **U74AHC2G126** consists of two bus buffers with 3-state output controlled by enable input (nOE), when nOE is low, the output is disable.

FEATURES

- * Wide supply voltage range from 2.0V to 5.5V
- * Low static power consumption; $I_{CC}=2\mu A$ (Max.)
- * $\pm 8mA$ output driver at 5V



ORDERING INFORMATION

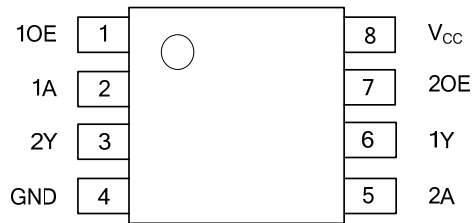
Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74AHC2G126L-P08-R	U74AHC2G126G-P08-R	TSSOP-8	Tape Reel
U74AHC2G126L-SM1-R	U74AHC2G126G-SM1-R	MSOP-8	Tape Reel

<p>U74AHC2G126G-P08-R</p> <pre> (1)Packing Type (2)Package Type (3)Green Package </pre>	<p>(1) R: Tape Reel</p> <p>(2) P08: TSSOP-8, SM1: MSOP-8</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

MSOP-8	TSSOP-8
<p>8 7 6 5 → Date Code UTC □□□□ L: Lead Free AHC2G126□ → G: Halogen Free □□ → Lot Code 1 2 3 4</p>	<p>1 • UTC □□□□ 8 2 □□□□ 7 → Date Code 3 1126 □□ 6 → L: Lead Free 4 □□ □□ 5 → G: Halogen Free Lot Code</p>

■ PIN CONFIGURATION

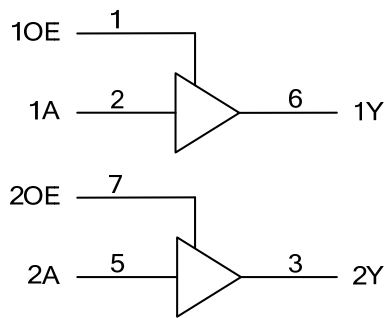


■ FUNCTION TABLE

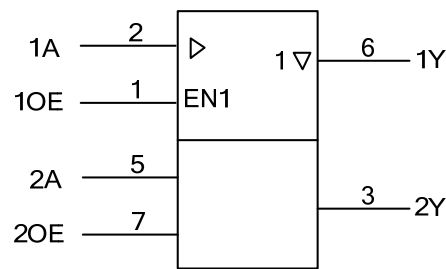
INPUT(OE)	INPUT(A)	OUTPUT(Y)
H	L	L
H	H	H
L	X	Z

Note: H: High voltage level; L: Low voltage level; Z: High impedance; X: Don't care

■ LOGIC DIAGRAM (positive logic)



Logic symbol



IEC Logic symbol

■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	CONDITIONS	RATINGS	UNIT
Supply Voltage	V_{CC}		-0.5 ~ +7.0	V
Input Voltage	V_{IN}		-0.5 ~ +7.0	V
Output Voltage	V_{OUT}		-0.5 ~ $V_{CC} + 0.5$	V
Continuous V_{CC} or GND Current	I_{CC}		±75	mA
Continuous Output Current	I_{OUT}	$V_{OUT}=0V \sim V_{CC}$	±25	mA
Input Clamp Current	I_{IK}	$V_{IN}<0V$	-20	mA
Output Clamp Current	I_{OK}	$V_{OUT}>V_{CC}$ or $V_{OUT}<0V$	±20	mA
Storage Temperature Range	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.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}	Operating	2.0		5.5	V
		Data retention only	1.5			V
Input Voltage	V_{IN}		0		5.5	V
Output Voltage	V_{OUT}	High or low state	0		V_{CC}	V
Input Transition Rise or Fall Rate	$\Delta t/\Delta v$	$V_{CC}=3.3V\pm 0.3V$			100	ns/V
		$V_{CC}=5V\pm 0.5V$			20	ns/V
Operating Temperature (Note)	T_A		-40		+125	°C

Note: This condition is only determined from design. It can't be 100% tested in mass production.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
High-level Input Voltage	V_{IH}	$V_{CC}=2.0V$	1.5			V
		$V_{CC}=3.0V$	2.1			V
		$V_{CC}=5.5V$	3.85			V
Low-level Input Voltage	V_{IL}	$V_{CC}=2.0V$			0.5	V
		$V_{CC}=3.0V$			0.9	V
		$V_{CC}=5.5V$			1.65	V
High-Level Output Voltage	V_{OH}	$V_{CC}=2.0V$	1.9	2		V
		$V_{CC}=3.0V$				
		$V_{CC}=4.5V$				
		$V_{CC}=3.0V, I_{OH}=-4mA$	2.58			V
		$V_{CC}=4.5V, I_{OH}=-8mA$	3.94			V
Low-Level Output Voltage	V_{OL}	$V_{CC}=2.0V$			0.1	V
		$V_{CC}=3.0V$				
		$V_{CC}=4.5V$				
		$V_{CC}=3.0V, I_{OL}=4mA$	0.36			V
		$V_{CC}=4.5V, I_{OL}=8mA$	0.36			V
Input Leakage Current	$I_{I(LEAK)}$	$V_{CC}=5.5V, V_{IL}=V_{CC}$ or GND			±0.1	μA
3-state Output OFF-state Current	I_{OZ}	$V_{IN}=V_{IH}$ or $V_{IL}, V_{OUT}=V_{CC}$ or GND, $V_{CC}=5.5V$			±0.25	μA
Quiescent Supply Current	I_{CC}	$V_{CC}=5.5V, V_{IN}=V_{CC}$ or GND, $I_{OUT}=0A$			2	μA
Input Capacitance	C_I	$V_{CC}=5.0V, V_{IN}=V_{CC}$ or GND		2		pF

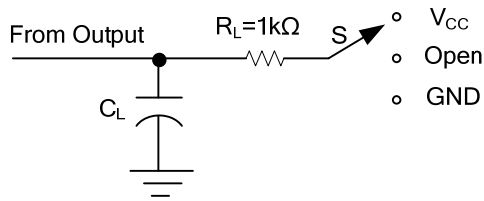
■ SWITCHING CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Propagation Delay From Input (A) to Output (Y)	t _{PD}	C _L =15pF	V _{CC} =3.3±0.3V		9.5	ns
			V _{CC} =5±0.5V		6.5	ns
		C _L =50pF	V _{CC} =3.3±0.3V		13	ns
			V _{CC} =5±0.5V		8.5	ns
Propagation Delay From Input (OE) to Output (Y)	t _{en}	C _L =15pF	V _{CC} =3.3±0.3V		9.5	ns
			V _{CC} =5±0.5V		6	ns
		C _L =50pF	V _{CC} =3.3±0.3V		13	ns
			V _{CC} =5±0.5V		8	ns
Propagation Delay From Input (OE) to Output (Y)	t _{dis}	C _L =15pF	V _{CC} =3.3±0.3V		11.5	ns
			V _{CC} =5±0.5V		8	ns
		C _L =50pF	V _{CC} =3.3±0.3V		15	ns
			V _{CC} =5±0.5V		10	ns

■ OPERATING CHARACTERISTICS (f=10MHz, T_A=25°C, unless otherwise specified)

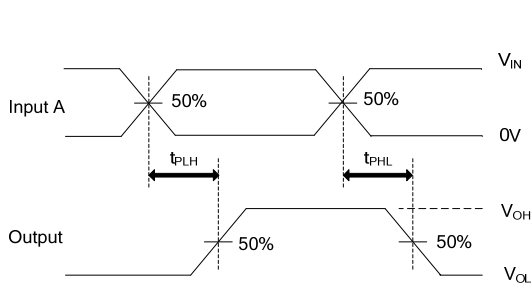
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance	C _{PD}	V _{CC} =5V, No load.		14		pF

■ TEST CIRCUIT AND WAVEFORMS

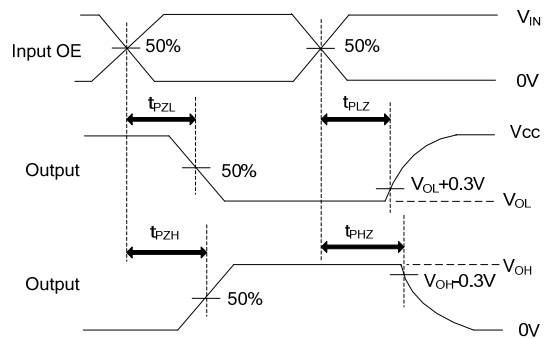


TEST CIRCUIT

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



PROPAGATION DELAY TIMES



ENABLE AND DISABLE TIMES

Notes: 1. C_L includes probe and jig capacitance.

2. All input pulses are supplied by generators having the following characteristics: PRR \leq 10MHz, $Z_O = 50\Omega$.

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