



U74LVC2G07

CMOS IC

BUFFERS WITH OPEN-DRAIN OUTPUTS

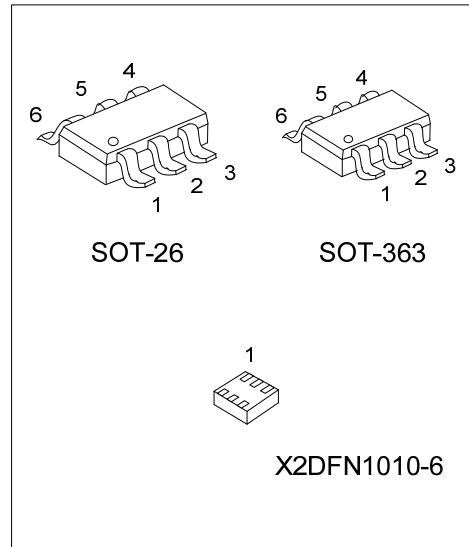
DESCRIPTION

The **U74LVC2G07** provides two non-inverting buffers with open-drain output and can be connected to other open-drain outputs to implement active-LOW wired-OR or active-HIGH wired-AND functions.

This device has power-down protective circuit to preventing device from destruction when it is powered down.

FEATURES

- * Wide Supply Voltage Range From 1.65V To 5.5V.
- * Inputs Can Be Driven From Either 3.3V or 5V Devices.
- * Low Power Dissipation: Ptot =300mW(Max)
- * -24mA Output Drive (V_{CC}=3.0V)
- * Power Down Protection
- * Latch-Up Performance Exceeds 250mA.
- * High Noise Immunity
- * Direct Interface With TTL Levels



ORDERING INFORMATION

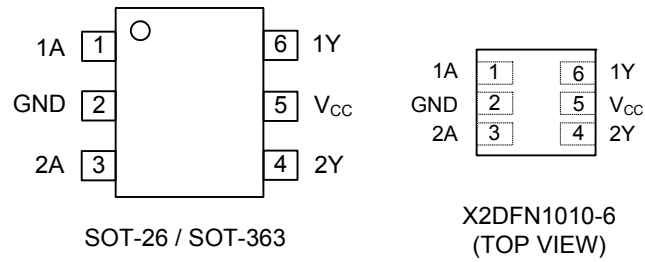
Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74LVC2G07L-AG6-R	U74LVC2G07G-AG6-R	SOT-26	Tape Reel
U74LVC2G07L-AL6-R	U74LVC2G07G-AL6-R	SOT-363	Tape Reel
U74LVC2G07L-K06-1010X2-R	U74LVC2G07G-K06-1010X2-R	X2DFN1010-6	Tape Reel

<p>U74LVC2G07G-AG6-R</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) R: Tape Reel (2) AG6: SOT-26, AL6: SOT-363 K06-1010X2: X2DFN1010-6 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
--	---

MARKING

SOT-26 / SOT-363	X2DFN1010-6
<p>L: Lead Free G: Halogen Free</p>	

■ PIN CONFIGURATION

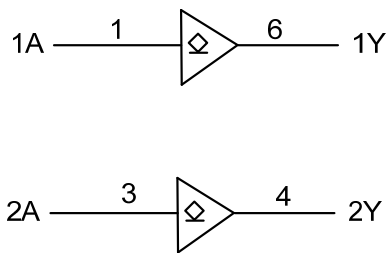


■ FUNCTION TABLE (Each Gate)

INPUT(nA)	OUTPUT(nY)
H	Z
L	L

Note: H=High Level ; L=Low Level ; Z: High-impedance OFF-state

■ LOGIC DIAGRAM (Positive Logic)



■ ABSOLUTE MAXIMUM RATING (Unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.5 ~ 6.5	V
Input Voltage	V_{IN}	-0.5 ~ 6.5	V
Output Voltage(Active Mode)	V_{OUT}	-0.5 ~ 6.5	V
Output Voltage(Power-Down Mode)	V_{OUT}	-0.5 ~ 6.5	V
Input Clamp Current($V_{IN}<0$)	I_{IK}	-50	mA
Output Clamp Current($V_{OUT}<0$)	I_{OK}	-50	mA
Output Current	I_{OUT}	±50	mA
V_{CC} or GND Current	I_{CC}	±100	mA
Storage Temperature	T_{STG}	-65 ~ +150	°C

- Notes: 1. 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.
 2. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.
 3. When $V_{CC}=0V$ (Power-Down Mode),the output voltage can be 5.5V in normal operation.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}	1.65		5.5	V
Input Voltage	V_{IN}	0		5.5	V
Output Voltage	Active Mode	0		5.5	V
	$V_{CC}=0V$; Power-Down Mode	0		5.5	
Input Transition Rise or Fall Rate	$V_{CC}=1.65V\sim 2.7V$			20	ns/V
	$V_{CC}=2.7V\sim 5.5V$			10	ns/V
Operating Ambient Temperature	T_A	-40		+125	°C

■ STATIC CHARACTERISTICS ($T_{OPR} = -40^{\circ}C \sim +85^{\circ}C$)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
High-Level Input Voltage	V_{IH}	$V_{CC}=1.65V\sim 1.95V$	$0.65 \times V_{CC}$			V
		$V_{CC}=2.3V\sim 2.7V$	1.7			
		$V_{CC}=3.0V\sim 3.6V$	2.0			
		$V_{CC}=4.5V\sim 5.5V$	$0.7 \times V_{CC}$			
Low-Level Input Voltage	V_{IL}	$V_{CC}=1.65V\sim 1.95V$			$0.35 \times V_{CC}$	V
		$V_{CC}=2.3V\sim 2.7V$			0.7	
		$V_{CC}=3.0V\sim 3.6V$			0.8	
		$V_{CC}=4.5V\sim 5.5V$			$0.3 \times V_{CC}$	
Low-Level Output Voltage	V_{OL}	$V_{CC}=1.65V\sim 5.5V, I_{OL}=100\mu A$			0.1	V
		$V_{CC}=1.65V, I_{OL}=4mA$			0.45	
		$V_{CC}=2.3V, I_{OL}=8mA$			0.3	
		$V_{CC}=2.7V, I_{OL}=12mA$			0.4	
		$V_{CC}=3.0V, I_{OL}=24mA$			0.55	
		$V_{CC}=4.5V, I_{OL}=32mA$			0.55	
Input Leakage Current	$I_{I(LEAK)}$	$V_{CC}=1.65V\sim 5.5V, V_{IN}=5.5V$ or 0		±0.1	±5	μA
Power OFF Leakage Current	I_{OFF}	$V_{CC}=0V, V_{IN}$ or $V_O=5.5V$		±0.1	±10	μA
Quiescent Supply Current	I_Q	$V_{CC}=5.5V, V_{IN}=V_{CC}$ or GND, $I_{OUT}=0$		0.1	10	μA
Additional Quiescent Supply Current per pin	ΔI_Q	$V_{CC}=2.3V \sim 5.5V, V_{IN}=V_{CC}-0.6V, I_O=0A$		5	500	μA
Output OFF-state current	I_{OZ}	$V_{CC}=5.5V, V_{IN}=V_{IH}$ or V_{IL} $V_O=V_{CC}$ or GND		±0.1	±10	μA

■ DYNAMIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
T _{OPR} =-40°C to +85°C (Note)						
Propagation delay from input (nA) to output(nY)	t _{PLZ} /t _{PZL}	V _{CC} = 1.65V ~ 1.95V	1.0	3.5	6.7	ns
		V _{CC} = 2.3V ~ 2.7V	0.5	2.4	4.3	
		V _{CC} = 2.7V	1.0	2.3	4.3	
		V _{CC} = 3.0V ~ 3.6V	0.5	2.6	3.7	
		V _{CC} = 4.5V ~ 5.5V	0.5	1.5	2.9	

Note: All typical values are measured at T_{OPR} =25°C and at V_{CC}=1.8V, 2.5V, 2.7V, 3.3V and 5.0V respectively.

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

PARAMETER	SYMBOL	TEST CONDITIONS	TYP	UNIT
Power Dissipation Capacitance Per Gate	C _{PD}	V _{CC} =3.3V (Notes 1, 2)	6.5	pF
Input Capacitance	C _I		2.5	pF

Notes: 1. C_{PD} is used to determine the dynamic power dissipation (P_D in μW).

$$P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \sum (C_L \times V_{CC}^2 \times f_o) \text{ where:}$$

f_i = Input Frequency in MHz;

f_o = Output Frequency in MHz;

C_L = Output Load Capacitance in PF;

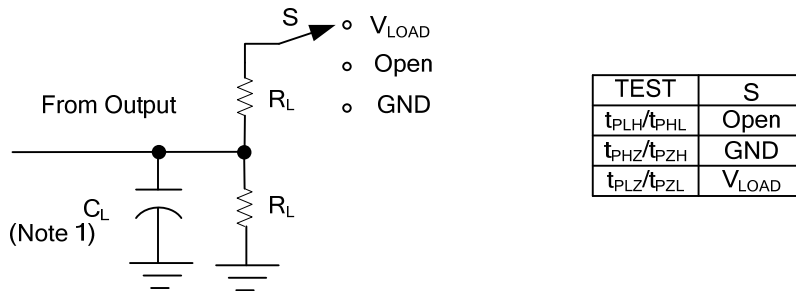
V_{CC} = Supply Voltage in Volts;

N = Total Load Switching Outputs.

$\sum (C_L \times V_{CC}^2 \times f_o)$ = Sum of Outputs.

2. The Condition is V_{IN} = GND to V_{CC}.

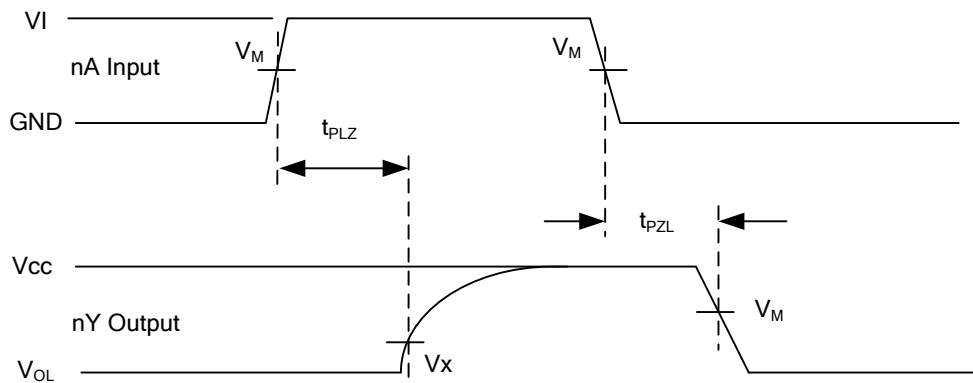
■ TEST CIRCUIT AND WAVEFORMS



Note 1: C_L includes probe and jig capacitance.

V_{CC}	V_{IN}	t_R / t_F	V_M	V_{LOAD}	C_L	R_L	V_x
$1.8V \pm 0.15V$	V_{CC}	$\leq 2ns$	$V_{CC}/2$	$2 \times V_{CC}$	30pF	1K Ω	$V_{OL} + 0.15V$
$2.5V \pm 0.2V$	V_{CC}	$\leq 2ns$	$V_{CC}/2$	$2 \times V_{CC}$	30pF	500 Ω	$V_{OL} + 0.15V$
2.7V	2.7V	$\leq 2.5ns$	1.5V	6V	50pF	500 Ω	$V_{OL} + 0.3V$
$3.3V \pm 0.3V$	3 V	$\leq 2.5ns$	1.5V	6V	50pF	500 Ω	$V_{OL} + 0.3V$
$5V \pm 0.5V$	V_{CC}	$\leq 2.5ns$	$V_{CC}/2$	$2 \times V_{CC}$	50pF	500 Ω	$V_{OL} + 0.3V$

Note: $V_{\Delta} = V_x - V_{OL}$



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\(友顺\)](#)