

Description

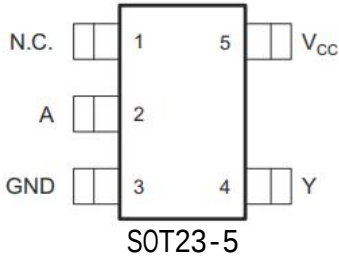
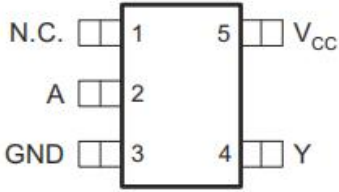
This single buffer/driver is designed for 1.65-V to 5.5-V VCC operation.

The output of the 74LVC1G07xx-7 device is open drain and can be connected to other open-drain outputs to implement active-low wired-OR or active high wired-AND functions. The maximum sink current is 32 mA.

Features

- Supports 5-V VCC Operation
- Input and Open-Drain Output Accept Voltages upto 5.5 V
- Can Translate Up or Down
- Low Power Consumption, 10- μ A Max ICC
- ± 24 -mA Output Drive at 3.3 V
- Ioff Supports Live Insertion, Partial-Power Down Mode, and Back-Drive Protection

Connection Diagrams and Pin Description

PIN DESCRIPTION	MARKING
 SOT23-5	
PIN DESCRIPTION	MARKING
 SC70-5	

PIN No. LT/CT/DT	NAME	I/O	FUNCTION
1	NC		No Connected
2	A	I	Input
3	GND		Ground
4	Y	O	Output
5	VCC		Supply Voltage

ORDER INFORMATION

ORDERING NUMBER	PACKAGE	PACKING OPTION
74LVC1G07W5-7	SOT23-5	3000PCS
74LVC1G07SE-7	SC70-5	3000PCS

Logic Diagram

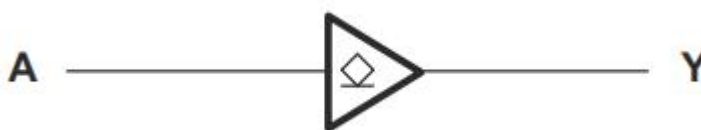


Figure 3.1: 74LVC1G07xx-7 Logic Diagram

Function Table

Input	Output
A	Y
1	Z
0	0

X = don't care, 1≡High State, 0≡Low State,Z=High Impedance

Absolute Maximum Ratings

Symbol	Parameter	MIN	MAX	Unit
V_{CC}	Supply Voltage	-0.5	6.5	V
V_I	Input Voltage Range	-0.5	6.5	V
V_O	Voltage Range(applied to any output in the high-impedance or power-off state) ⁽¹⁾	-0.5	6.5	V
	Voltage Range(applied to any output in the high or low state)	-0.5	$V_{CC} + 0.5$	V
I_O	Continuous Output Current		±50	mA
T_J	Junction Temperature		125	°C
T_{OP}	Operating Temperature	0	70	°C

Absolute maximum ratings are those values beyond which the device could be permanently damaged. These are stress ratings only, which do not imply functional operation of the device at these or any other conditions beyond those indicated under normal operating conditions.

(1) The input and output negative-voltage ratings may be exceeded if the input and output current ratings are observed.

Electrical Characteristics

DC Specifications

($T_a=25^\circ\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified)

Symbol	Parameter	Test Condition	MIN	TYP	MAX	Unit
V_{IH}	High Level Input Voltage	$V_{CC}=1.65\text{V to }1.95\text{V}$	$0.65V_{CC}$	--	--	V
		$V_{CC}=2.3\text{V to }2.7\text{V}$	1.7	--	--	V
		$V_{CC}=3\text{V to }5.5\text{V}$	$0.7V_{CC}$	--	--	V
V_{IL}	Low Level Input Voltage	$V_{CC}=1.65\text{V to }1.95\text{V}$	--	--	$0.35V_{CC}$	V
		$V_{CC}=2.3\text{V to }2.7\text{V}$	--	--	0.7	V
		$V_{CC}=3\text{V to }3.6\text{V}$	--	--	0.8	V
		$V_{CC}=4.5\text{V to }5.5\text{V}$	--	--	$0.3V_{CC}$	V
I_{OL}	Low Level Output Current	$V_{CC}=1.65\text{V}$	--	--	4	mA
		$V_{CC}=2.3\text{V}$	--	--	8	mA
		$V_{CC}=3\text{V}$	--	--	16	mA
			--	--	24	mA
		$V_{CC}=4.5\text{V}$	--	--	32	mA

Symbol	Parameter	Test Condition	MIN	TYP	MAX	Unit
V_{OL}	Low Level Output Voltage	$V_{CC}=1.65V$ to $5.5V, I_{OH}=100\mu A$	--	--	0.1	V
		$V_{CC}=1.65V, I_o=4mA$	--	0.09	--	V
		$V_{CC}=2.3V, I_o=8mA$	--	0.1	--	V
		$V_{CC}=3V, I_o=16mA$	--	0.15	--	V
		$V_{CC}=3V, I_o=24mA$	--	0.25	--	V
		$V_{CC}=4.5V, I_o=32mA$	--	0.25	--	V
I_I	A Inputs Leakage Current	$V_{CC}=0$ to $5.5V, V_I=V_{CC}$ or GND	--	0	± 1	μA
I_{off}	Power Off Leakage Current	$V_{CC}=0V, V_I$ or $V_O=5.5V$	--	0	± 10	μA
I_{OZ}	3-State Output OFF-State Current	$V_{CC}=3.6V, V_O = 0$ to $5.5V$	--	0	10	μA
I_{CC}	Quiescent Supply Current	$V_{CC}=1.65V$ to $5.5V, V_I=V_{CC}$ or GND, $I_o=0$	--	0	10	μA
ΔI_{CC}	Additional Quiescent Supply Current Per Input Pin	$V_{CC}=3V$ to $5.5V$, one input at $V_{CC}-0.6V$, Other inputs at V_{CC} or GND	--	--	500	μA

Application Information

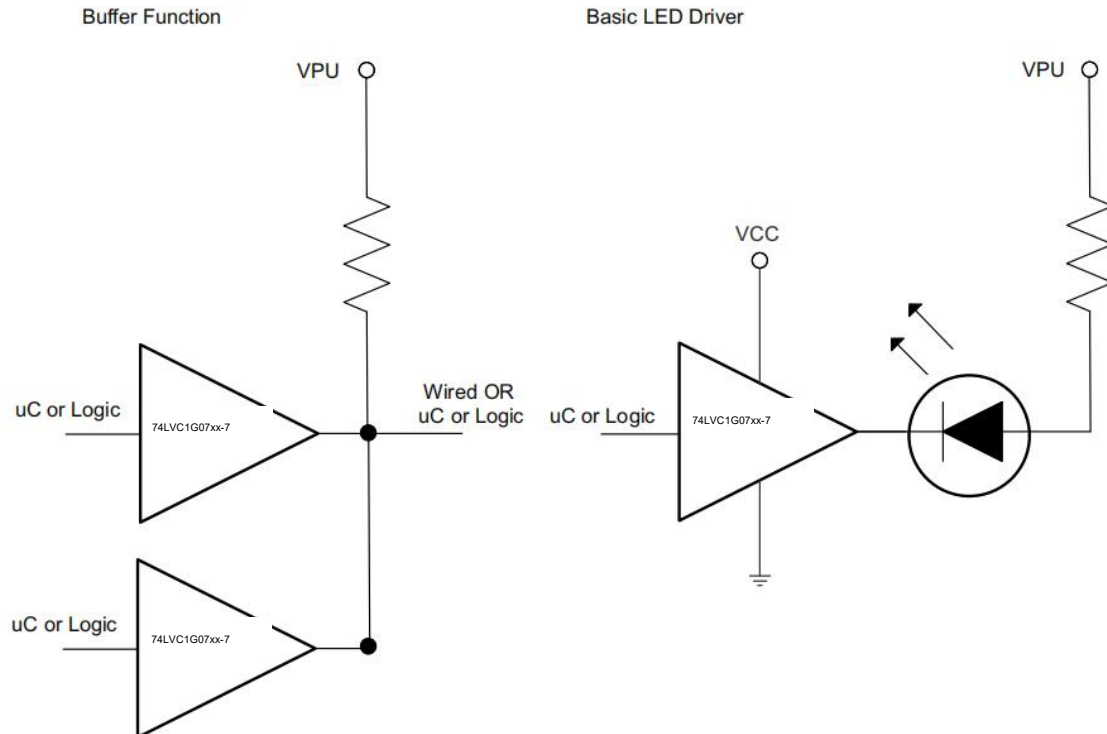
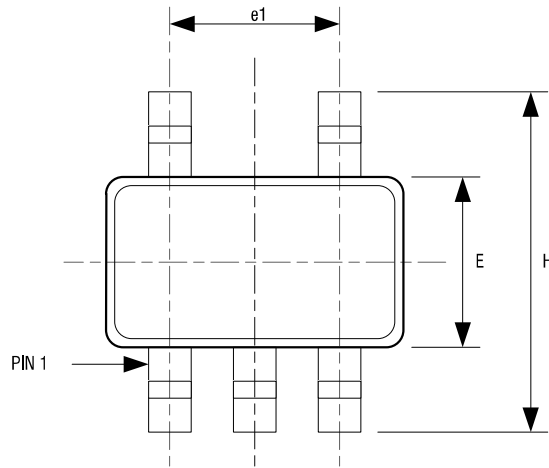
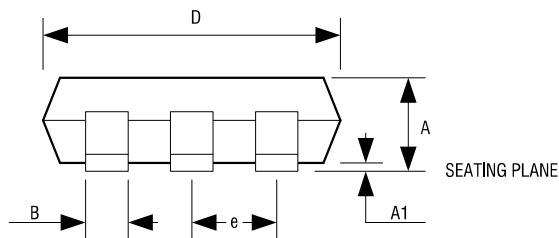


Figure 5.1: Application Schematic

SOT-23-5



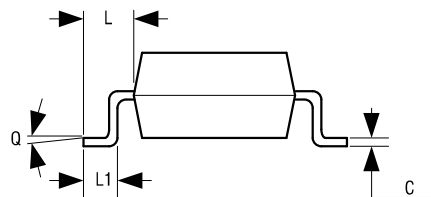
TOP VIEW



FRONT VIEW

5LD SOT-23 PACKAGE OUTLINE DIMENSIONS

Dimension	Min.	Max.
A	1.05	1.35
A1	0.04	.15
B	0.3	0.5
C	0.09	0.2
D	2.8	3.0
H	2.5	3.1
E	1.5	1.7
e	0.95 REF.	
e1	1.90 REF.	
L1	0.2	0.55
L	0.35	0.8
Q	0°	10°

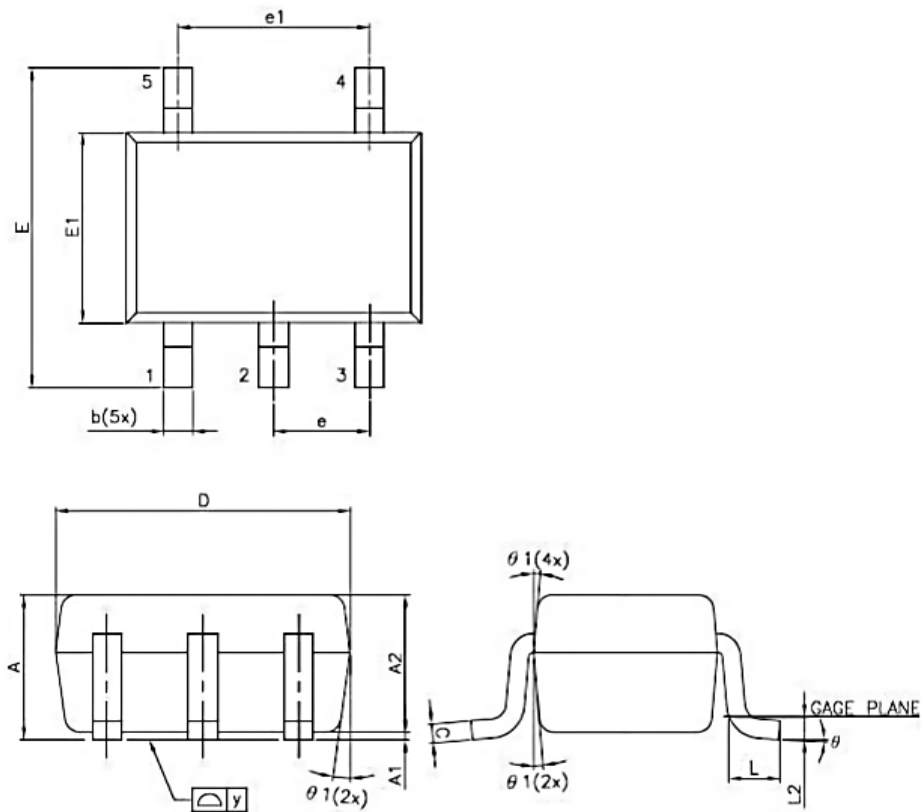


SIDE VIEW

NOTE:

- 1.DIMENSIONS ARE IN MILLIMETERS
- 2.DRAWING NOT TO SCALE
- 3.DIMENSIONS ARE INCLUSIVE OF PLATING
- 4.DIMENSIONS ARE EXCLUSIVE OF MOLD FLASH AND METAL BURR

SC70-5



Symbol	Dim in mm		
	MIN	TYP	MAX
A	0.90	1.00	1.10
A1	0.00	0.05	0.10
A2	0.90	0.95	1.00
b	0.15	0.25	0.35
C	0.10	0.12	0.15
D	1.80	2.00	2.20
E	2.15	2.25	2.35
E1	1.15	1.25	1.35
e	0.650TYP.		
e1	1.20	1.30	1.40
L	0.25	0.30	0.40
L2	0.15TYP.		
Y	0.00	0.05	0.10
θ	4°	8°	12°