

# MSKSEMI 美森科

SEMICONDUCTOR



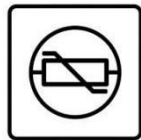
ESD



TVS



TSS



MOV



GDT



PLED

## 74LVC1G07xx-7-MS

Product specification

## Description

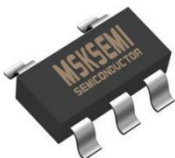
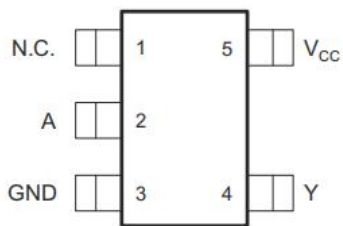

This single buffer/driver is designed for 1.65-V to 5.5-V VCC operation.


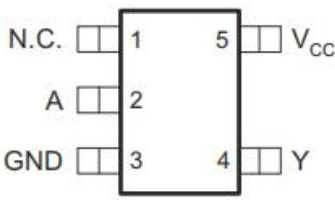
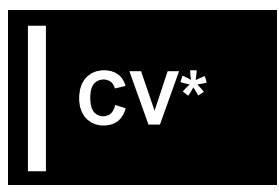
The output of the 74LVC1G07xx-7-MS device is open drain and can be connected to other open-drain outputs to implement active-low wired-OR or active high wired-AND functions. The maximum sink current is 32 mA.

## Features

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

## Connection Diagrams and Pin Description

SOT-23-5	PIN DESCRIPTION	MARKING
		

SC70-5	PIN DESCRIPTION	MARKING
		

PIN No.	NAME	I/O	FUNCTION
LT/CT/DT			
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-MS	SOT23-5	3000PCS
74LVC1G07SE-7-MS	SC70-5	3000PCS

## Logic Diagram

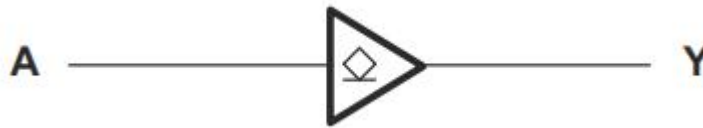


Figure 3.1: 74LVC1G07xx-7-MS Logic Diagram

## 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 <sub>CC</sub>	Supply Voltage	-0.5	6.5	V
V <sub>I</sub>	Input Voltage Range	-0.5	6.5	V
V <sub>O</sub>	Voltage Range(applied to any output in the high-impedance or power-off state) <sup>(1)</sup>	-0.5	6.5	V
	Voltage Range(applied to any output in the high or low state)	-0.5	V <sub>CC</sub> + 0.5	V
I <sub>O</sub>	Continuous Output Current		±50	mA
T <sub>J</sub>	Junction Temperature		125	°C
T <sub>OP</sub>	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<sub>a</sub>=25°C , voltages are referenced to GND (ground=0V), unless otherwise specified)

Symbol	Parameter	Test Condition	MIN	TYP	MAX	Unit
V <sub>IH</sub>	High Level Input Voltage	V <sub>CC</sub> =1.65V to 1.95V	0.65V <sub>CC</sub>	--	--	V
		V <sub>CC</sub> =2.3V to 2.7V	1.7	--	--	V
		V <sub>CC</sub> =3V to 5.5V	0.7V <sub>CC</sub>	--	--	V
V <sub>IL</sub>	Low Level Input Voltage	V <sub>CC</sub> =1.65V to 1.95V	--	--	0.35V <sub>CC</sub>	V
		V <sub>CC</sub> =2.3V to 2.7V	--	--	0.7	V
		V <sub>CC</sub> =3V to 3.6V	--	--	0.8	V
		V <sub>CC</sub> =4.5V to 5.5V	--	--	0.3V <sub>CC</sub>	V
I <sub>OL</sub>	Low Level Output Current	V <sub>CC</sub> =1.65V	--	--	4	mA
		V <sub>CC</sub> =2.3V	--	--	8	mA
		V <sub>CC</sub> =3V	--	--	16	mA
			--	--	24	mA
		V <sub>CC</sub> =4.5V	--	--	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	$\pm 1$	$\mu A$
$I_{off}$	Power Off Leakage Current	$V_{CC}=0V, V_I$ or $V_O=5.5V$	--	0	$\pm 10$	$\mu A$
$I_{oz}$	3-State Output OFF-State Current	$V_{CC}=3.6V, V_O = 0$ to $5.5V$	--	0	10	$\mu A$
$I_{CC}$	Quiescent Supply Current	$V_{CC}=1.65V$ to $5.5V, V_I=V_{CC}$ or GND, $I_o=0$	--	0	10	$\mu A$
$\Delta I_{CC}$	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	$\mu A$

## Application Information

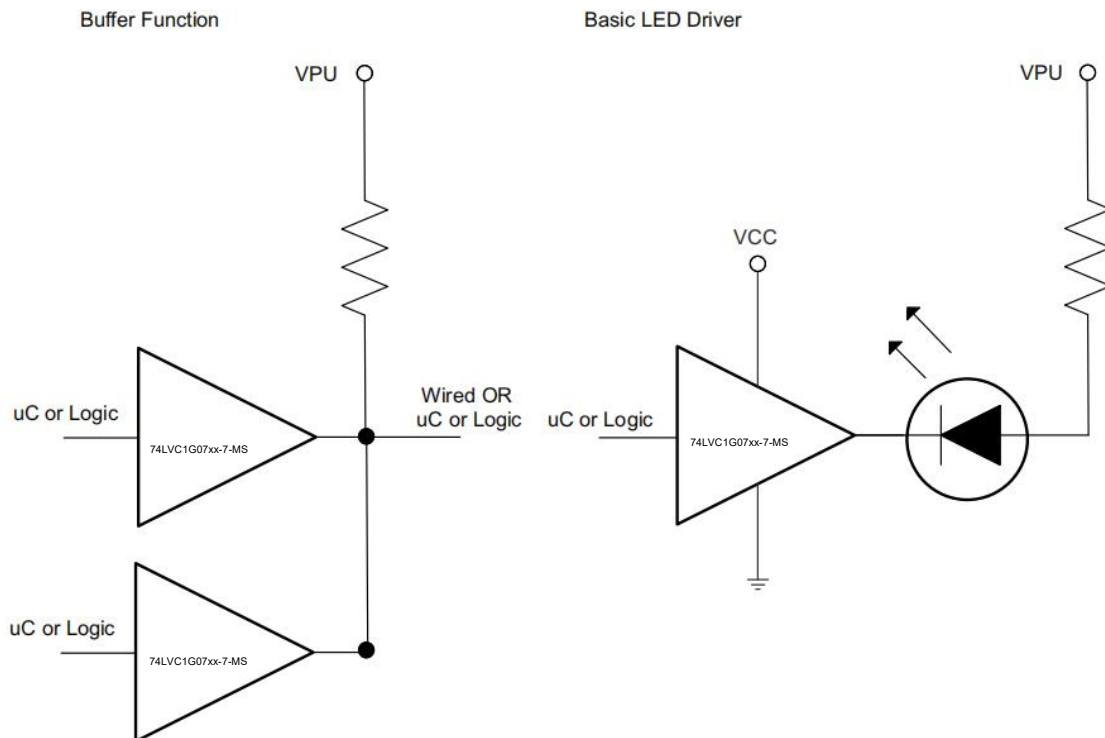
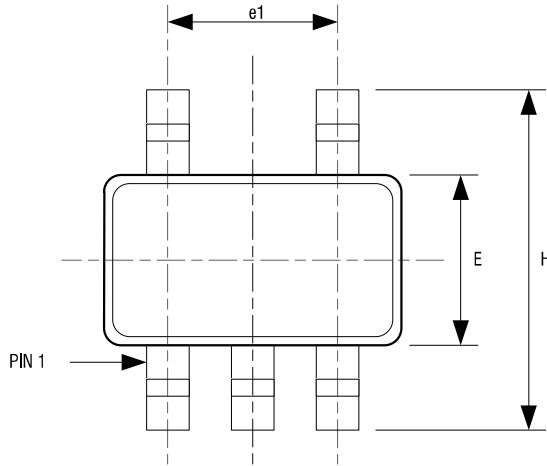


Figure 5.1: Application Schematic

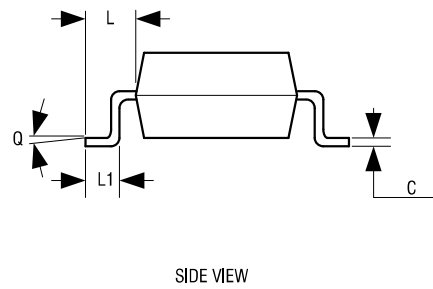
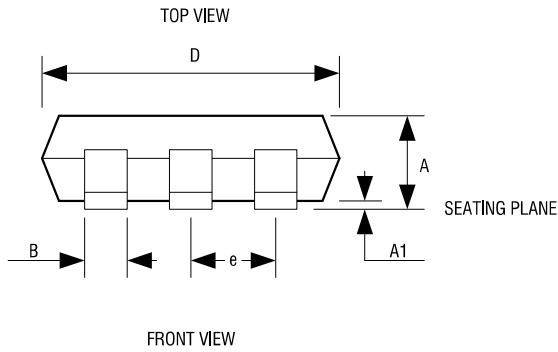
**PACKAGE DESCRIPTION**

**SOT-23-5**



5LD SOT-23 PACKAGE OUTLINE DIMENSIONS

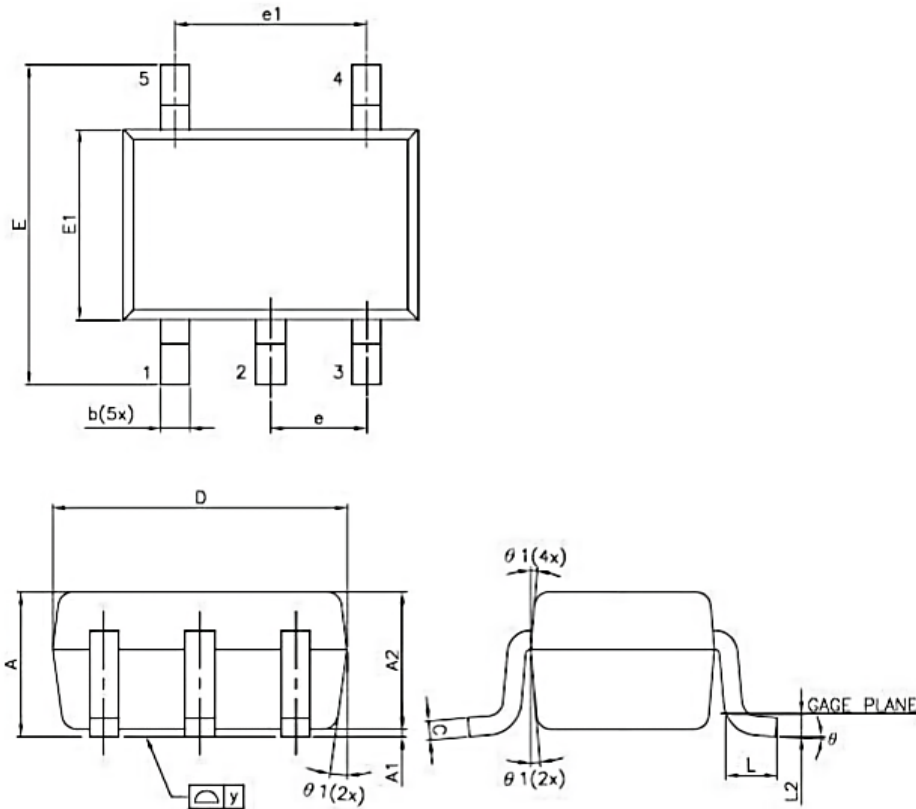
Dimension	Min.	Max.
A	1.05	1.35
A1	0.04	.15
B	0.3	0.5
C	0.09	0.2
D	2.8	3.0
H	2.5	3.1
E	1.5	1.7
e	0.95 REF.	
e1	1.90 REF.	
L1	0.2	0.55
L	0.35	0.8
Q	0°	10°



**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**



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
$\theta$	4°	8°	12°

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