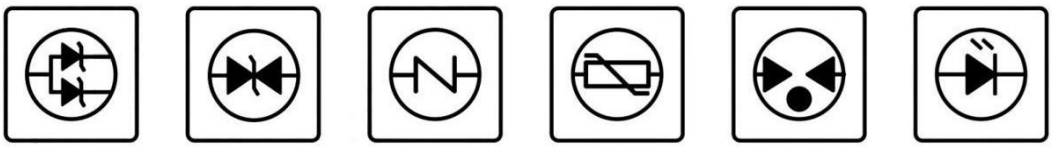
MSKSEMI 美森科
SEMICONDUCTOR



74LVC1G06xx-7-MS

Product specification

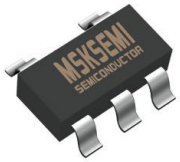
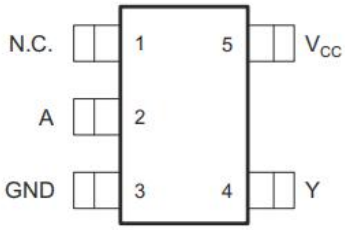
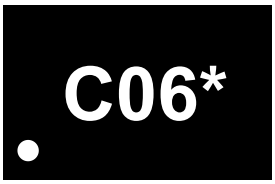
Description

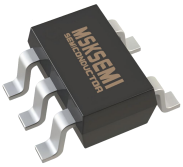
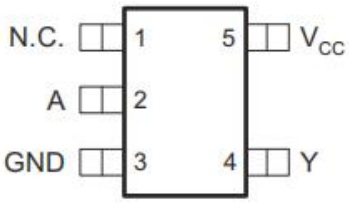
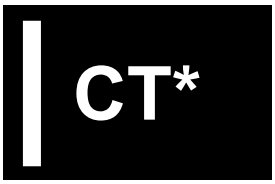
This single inverter buffer and driver is designed for 1.65-V to 5.5-V VCC operation.
The output of the 74LVC1G06xx-7-MS device is open drain and can be connected to other open-drain outputs to implement active-low wired-OR or active high wired-AND functions. The maximum sink current is 32 mA.

Features

- Supports 5V V_{CC} operation
- Input and Open-Drain Output accept voltages to 5.5V
- Low power consumption, 10μA max I_{CC}
- ±24mA output drive at 3.3V for open-drain devices
- I_{off} supports partial-power-down mode Operation and Back-Drive Protection

DEVICE SUMMARY, PIN AND PACKAGES

SOT-23-5	PIN DESCRIPTION	MARKING
		

SC70-5	PIN DESCRIPTION	MARKING
		

PIN No. DBV/DCK	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
74LVC1G06W5-7-MS	SOT23-5	3000PCS
74LVC1G06SE-7-MS	SC70-5	3000PCS

Logic Diagram

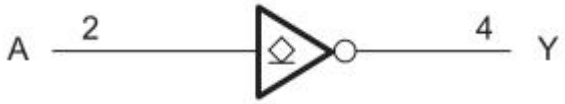


Figure 3.1：74LVC1G06xx-7-MS Logic Diagram

Function Table

Input	Output
A	Y
1	0
0	Hi-Z

1=High State, 0=Low State

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	VCC + 0.5	V
I_O	Continuous Output Current		±50	mA
T_J	Junction Temperature		125	℃
T_{OP}	Operating Temperature	0	70	℃

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℃, voltages are referenced to GND (ground=0V),All typical values are at VCC=3.3V, unless otherwise specified)

Symbol	Parameter	Test Condition	MIN	TYP	MAX	Unit
V_{IH}	High Level Input Voltage	V_{CC}=1.65V to 1.95V	0.65V_{CC}	--	--	V
		V_{CC}=2.3V to 2.7V	1.7	--	--	V
		V_{CC}=2V to 5.5V	0.7V_{CC}	--	--	V
V_{IL}	Low Level Input Voltage	V_{CC}=1.65V to 1.95V	--	--	0.35V_{CC}	V
		V_{CC}=2.3V to 2.7V	--	--	0.7	V
		V_{CC}=3V to 3.6V	--	--	0.8	V
		V_{CC}=4.5V to 5.5V	--	--	0.3V_{CC}	V
I_{OL}	Low Level Output Current	V_{CC}=1.65V	--	--	4	mA
		V_{CC}=2.3V	--	--	8	mA
		V_{CC}=3V	--	--	16	mA
			--	--	24	mA
		V_{CC}=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_{OL}=100uA	--	--	0.1	V
		V_{CC}=1.65V,I_{OL}=4mA	--	0.09	--	V
		V_{CC}=2.3V,I_{OL}=8mA	--	0.1	--	V
		V_{CC}=3V,I_{OL}=16mA	--	0.15	--	V
		V_{CC}=3V,I_{OL}=24mA	--	0.25	--	V
		V_{CC}=4.5V,I_{OL}=32mA	--	0.25	--	V
I_I	A Input Leakage Current	V_{CC}=0 to 5.5V,V_I=V_{CC} or GND	--	0	±1	uA
I_{off}	Power Off Leakage Current	V_{CC}=0V,V_I or V_O=5.5V	--	0	±10	uA
I_{CC}	Quiescent Supply Current	V_{CC}=1.65V to 5.5V,V_I=V_{CC} or GND,I_O=0	--	0	10	uA
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	uA

Application Information

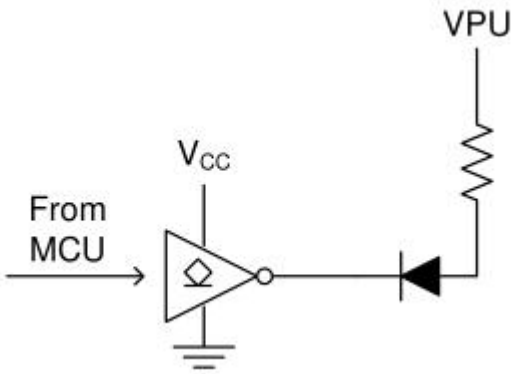
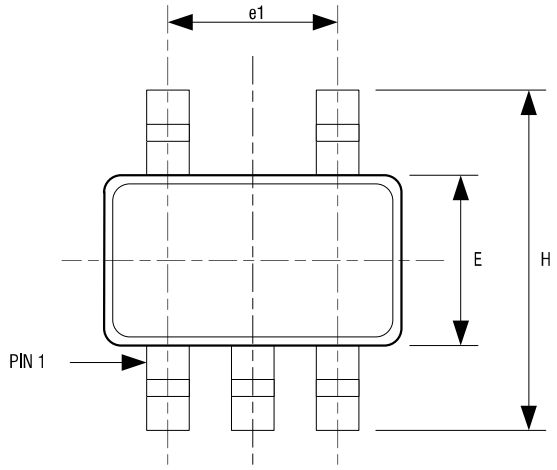


Figure 5.1：Application Schematic

PACKAGE DESCRIPTION

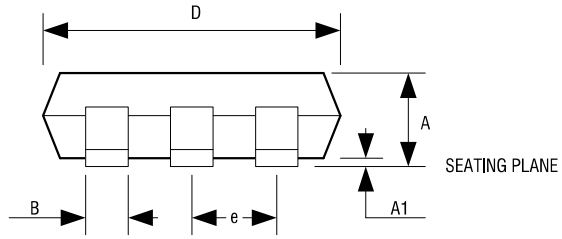
SOT-23-5



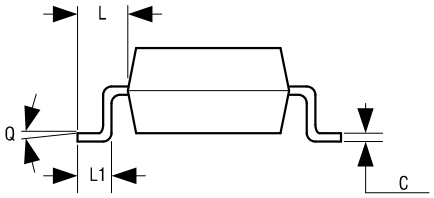
TOP VIEW

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°



FRONT VIEW

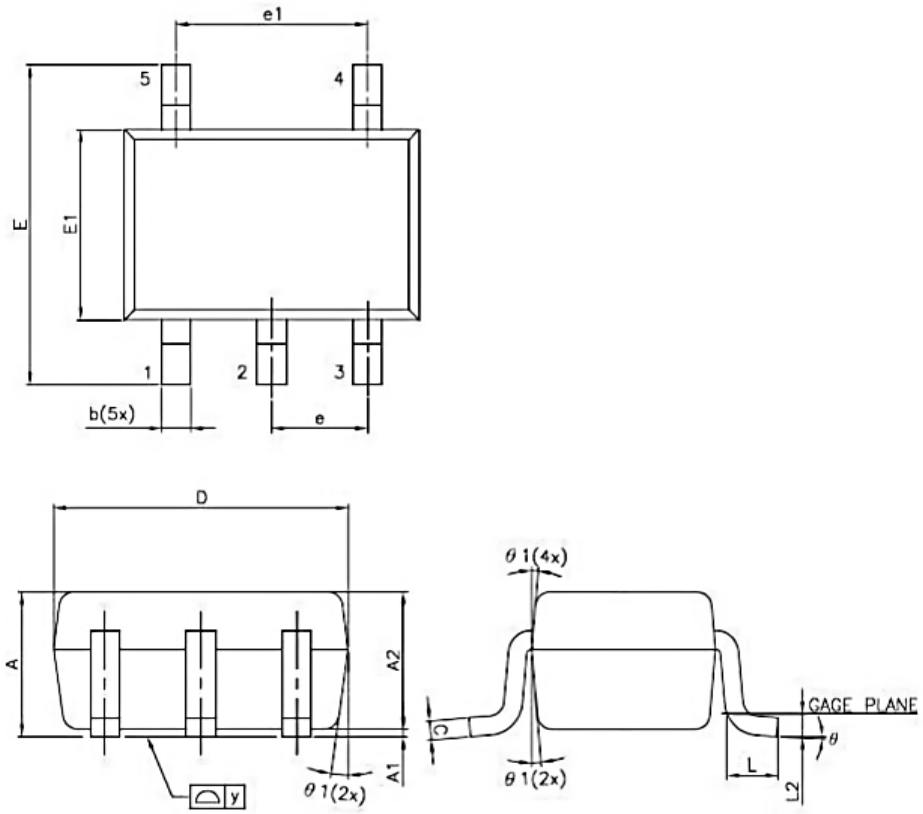


SIDE VIEW

NOTE:

1.DIMENSIONS ARE IN MLLIMETERS
2.DRAWING NOT TO SCALE
3.DIMENSIONS ARE INCLUSIVE OF PLATING
4.DIMENSIONS ARE EXCLUSVE 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.		
el	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°

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor 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 specificationsof any andall MSKSEMI Semiconductor products described orcontained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer'sproducts orequipment.

■ MSKSEMI Semiconductor. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with someprobability. It is possiblethat these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits anderror prevention circuitsfor safedesign, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from theauthorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringementsof intellectual property rights or other rightsof third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. Whendesigning equipment, referto the "Delivery Specification" for the MSKSEMI Semiconductor productthat you intend to use.