

GENERAL DESCRIPTION

SGM48759 is dual bilateral analog switch which is designed for 1.65V to 5.5V V_{CC} operation. The device can support up to 5.5V bidirectional signal transmission. It can be flexibly applied to digital and analog signal processing systems.

The SGM48759 is a dual channel single-pole/single-throw (SPST) switch. Each channel of SGM48759 is completely independent and can be controlled by its own enable-input control pin (C).

The SGM48759 is available in Green VSSOP-8 and MSOP-8 packages.

FEATURES

- **Supply Voltage Range: 1.65V to 5.5V**
- **Low On-Resistance: 4.5Ω (TYP) at $V_{CC} = 4.5V$**
- **With No V_{CC} Connected in the System, the Control Pins can Accept Voltages up to 5.5V**
- **Propagation Delay Time, t_{PD} : 0.65ns (TYP) at $V_{CC} = 3.3V$**
- **High On-Off Output Voltage Ratio**
- **High Degree of Linearity**
- **Rail-to-Rail Input and Output Operation**
- **-40°C to +125°C Operating Temperature Range**
- **Available in Green VSSOP-8 and MSOP-8 Packages**

APPLICATIONS

- Computer Peripherals
- Portable Equipment
- Sample-and-Hold Circuits

LOGIC DIAGRAM

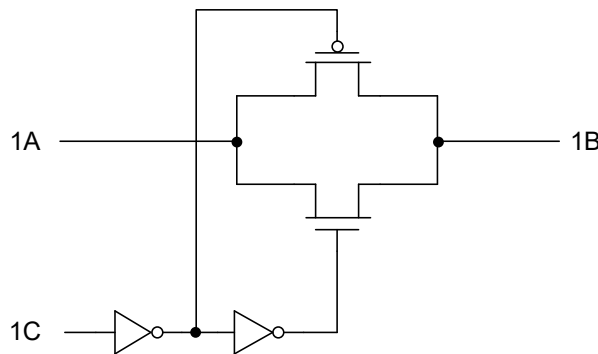


Figure 1. Logic Diagram

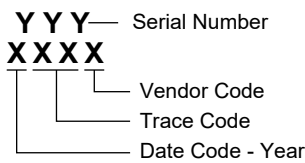
PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM48759	VSSOP-8	-40°C to +125°C	SGM48759XVS8G/TR	041 XXXX	Tape and Reel, 3000
	MSOP-8	-40°C to +125°C	SGM48759XMS8G/TR	SGM03Y XMS8 XXXXX	Tape and Reel, 4000

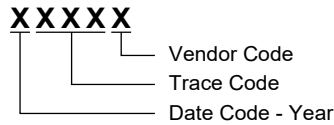
MARKING INFORMATION

NOTE: XXXX = Date Code, Trace Code and Vendor Code. XXXXX = Date Code, Trace Code and Vendor Code.

VSSOP-8



MSOP-8



Green (RoHS & HSF): SG Micro Corp defines "Green" to mean Pb-Free (RoHS compatible) and free of halogen substances. If you have additional comments or questions, please contact your SGMICRO representative directly.

ABSOLUTE MAXIMUM RATINGS

Supply Voltage, $V_{CC}^{(1)}$	-0.5V to 6.5V
Control Input Voltage, $V_{IN}^{(1)(2)}$	-0.5V to 6.5V
Switch I/O Voltage, $V_{I/O}^{(1)(2)(3)}$	-0.5V to ($V_{CC} + 0.5V$)
Control Input Clamp Current, $I_{IK}, V_{IN} < 0V$	-50mA
I/O Port Diode Current, $I_{I/O}, V_{I/O} < 0V$	-50mA
On-State Switch Current, $I_T, V_{I/O} = 0V$ to V_{CC}	$\pm 50mA$
Junction Temperature	+150°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10s)	+260°C
ESD Susceptibility	
HBM	7000V
CDM	1000V

2. If the input and output clamp-current ratings are observed, the input and output negative voltage ratings may be exceeded.
3. The maximum value is 6.5V.

OVERSTRESS CAUTION

Stresses beyond those listed in Absolute Maximum Ratings may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect reliability. Functional operation of the device at any conditions beyond those indicated in the Recommended Operating Conditions section is not implied.

RECOMMENDED OPERATING CONDITIONS

Supply Voltage, V_{CC}	1.65V to 5.5V
I/O Port Voltage, $V_{I/O}$	0V to V_{CC}
Control Input Voltage, V_{IN}	0V to 5.5V
Input Transition Rise or Fall Time, $\Delta t/\Delta V$	
$V_{CC} = 1.65V$ to $1.95V$	20ns/V
$V_{CC} = 2.3V$ to $2.7V$	20ns/V
$V_{CC} = 3.0V$ to $3.6V$	10ns/V
$V_{CC} = 4.5V$ to $5.5V$	10ns/V
Operating Temperature Range, T_A	-40°C to +125°C

ESD SENSITIVITY CAUTION

This integrated circuit can be damaged if ESD protections are not considered carefully. SGMICRO recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage. ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because even small parametric changes could cause the device not to meet the published specifications.

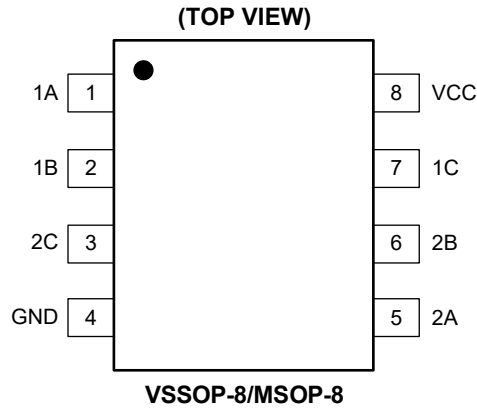
DISCLAIMER

SG Micro Corp reserves the right to make any change in circuit design, or specifications without prior notice.

NOTES:

1. All voltages reference ground, unless otherwise noted.

PIN CONFIGURATIONS



PIN DESCRIPTION

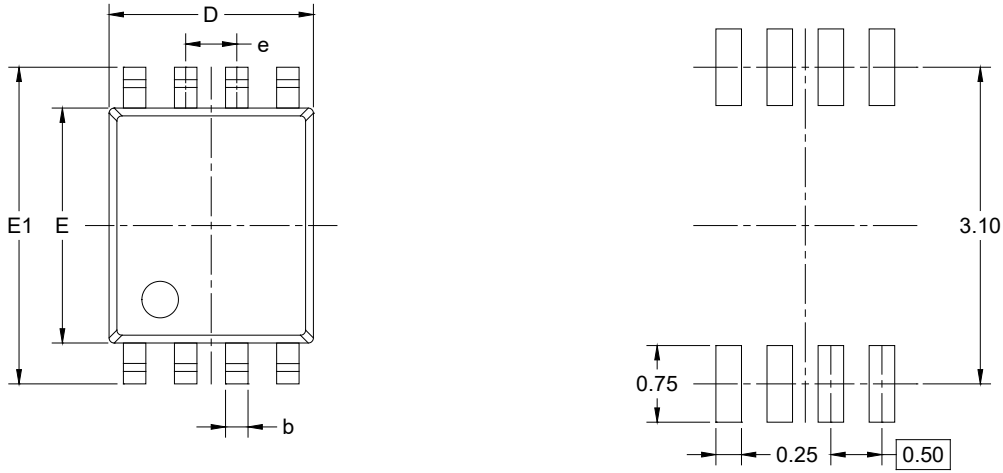
PIN	NAME	I/O	FUNCTION
1	1A	I/O	Analog Switch 1A Input/Output Port.
2	1B	I/O	Analog Switch 1B Input/Output Port.
3	2C	I	Control Signal Input Port of Channel 2.
4	GND	—	Ground Pin.
5	2A	I/O	Analog Switch 2A Input/Output Port.
6	2B	I/O	Analog Switch 2B Input/Output Port.
7	1C	I	Control Signal Input Port of Channel 1.
8	VCC	—	Power Supply Input Pin.

FUNCTION TABLE

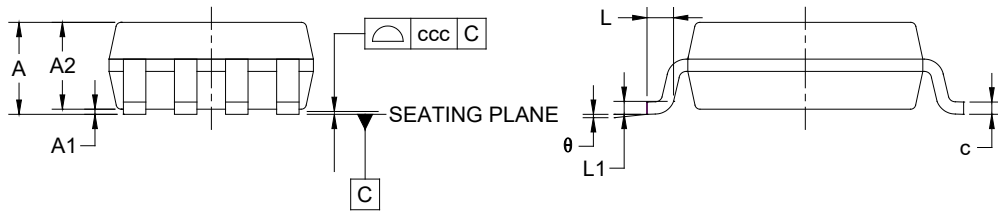
CONTROL INPUT (C)	SWITCH
L	OFF
H	ON

PACKAGE OUTLINE DIMENSIONS

VSSOP-8



RECOMMENDED LAND PATTERN (Unit: mm)



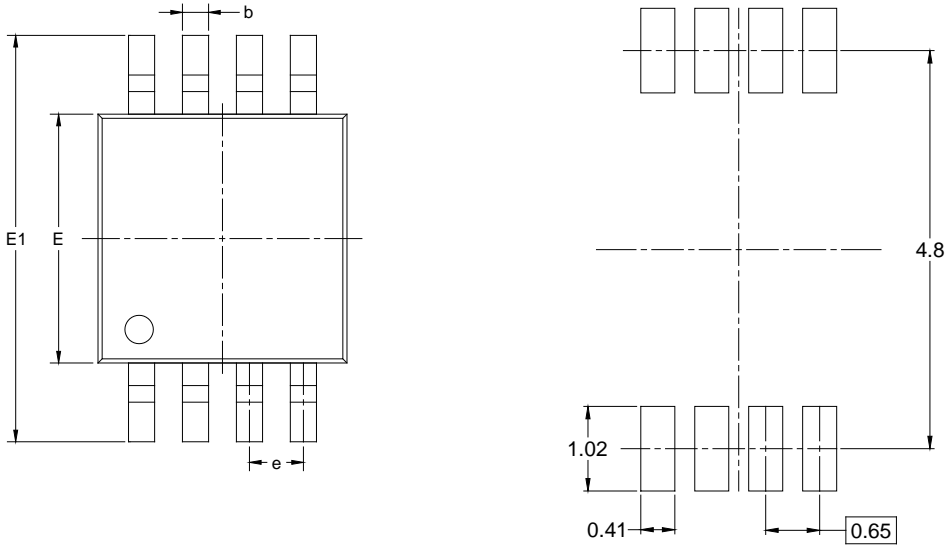
Symbol	Dimensions In Millimeters		
	MIN	MOD	MAX
A	-	-	0.900
A1	0	-	0.100
A2	0.650	-	0.800
b	0.170	-	0.270
c	0.100	-	0.180
D	1.900	-	2.100
E	2.200	-	2.400
E1	3.000	-	3.200
e	0.500 BSC		
L	0.200	-	0.350
L1	0.120 BSC		
θ	0°	-	6°
ccc	0.100		

NOTES:

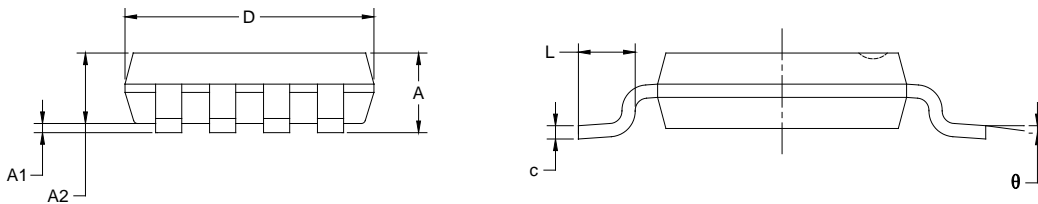
1. This drawing is subject to change without notice.
2. The dimensions do not include mold flashes, protrusions or gate burrs.
3. Reference JEDEC MO-187 CA.

PACKAGE OUTLINE DIMENSIONS

MSOP-8



RECOMMENDED LAND PATTERN (Unit: mm)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.820	1.100	0.032	0.043
A1	0.020	0.150	0.001	0.006
A2	0.750	0.950	0.030	0.037
b	0.250	0.380	0.010	0.015
c	0.090	0.230	0.004	0.009
D	2.900	3.100	0.114	0.122
E	2.900	3.100	0.114	0.122
E1	4.750	5.050	0.187	0.199
e	0.650 BSC		0.026 BSC	
L	0.400	0.800	0.016	0.031
θ	0°	6°	0°	6°

NOTES:

1. Body dimensions do not include mode flash or protrusion.
2. This drawing is subject to change without notice.

TAPE AND REEL INFORMATION

REEL DIMENSIONS



TAPE DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

KEY PARAMETER LIST OF TAPE AND REEL

Package Type	Reel Diameter	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	P1 (mm)	P2 (mm)	W (mm)	Pin1 Quadrant
VSSOP-8	7"	9.5	2.25	3.35	1.05	4.0	4.0	2.0	8.0	Q3
MSOP-8	13"	12.4	5.20	3.30	1.50	4.0	8.0	2.0	12.0	Q1

D00001

PACKAGE INFORMATION

CARTON BOX DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

KEY PARAMETER LIST OF CARTON BOX

Reel Type	Length (mm)	Width (mm)	Height (mm)	Pizza/Carton
7" (Option)	368	227	224	8
7"	442	410	224	18
13"	386	280	370	5

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