

GENERAL DESCRIPTION

The SGM48760 is a single SPST 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 SGM48760 is available in Green SC70-5 and SOT-23-5 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 Pin can Accept Voltages up to 5.5V**
- **Propagation Delay Time, t_{PD} : 0.65ns (TYP) at $V_{CC} = 3.3V$**
- **Rail-to-Rail Input and Output Operation**
- **-40°C to +125°C Operating Temperature Range**
- **Available in Green SC70-5 and SOT-23-5 Packages**

APPLICATIONS

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

LOGIC DIAGRAM

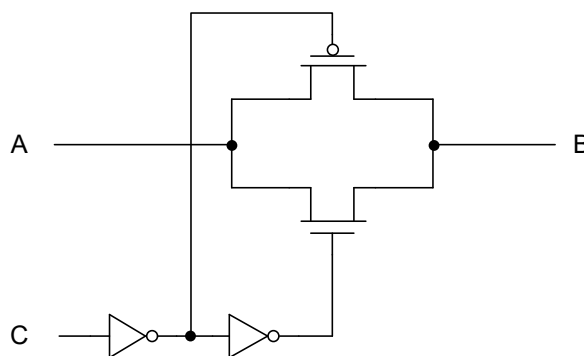


Figure 1. Logic Diagram

PACKAGE/ORDERING INFORMATION

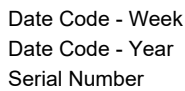
MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM48760	SC70-5	-40°C to +125°C	SGM48760XC5G/TR	048XX	Tape and Reel, 3000
	SOT-23-5	-40°C to +125°C	SGM48760XN5G/TR	049XX	Tape and Reel, 3000

MARKING INFORMATION

NOTE: XX = Date Code.

SC70-5/SOT-23-5

YYY X X



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

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

NOTES:

1. All voltages reference ground, unless otherwise noted.
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.

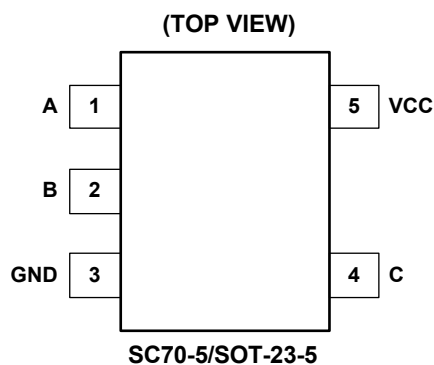
ESD SENSITIVITY CAUTION

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.

PIN CONFIGURATIONS



PIN DESCRIPTION

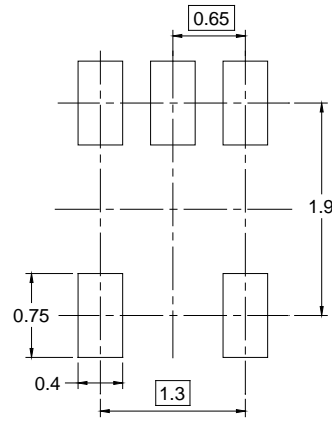
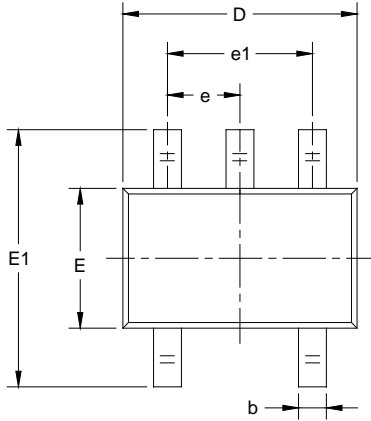
PIN	NAME	I/O	FUNCTION
1	A	I/O	Analog Switch A Input/Output Port.
2	B	I/O	Analog Switch B Input/Output Port.
3	GND	—	Ground Pin.
4	C	I	Control Signal Input Port of Switch (L = OFF, H = ON).
5	VCC	—	Power Supply Input Pin.

FUNCTION TABLE

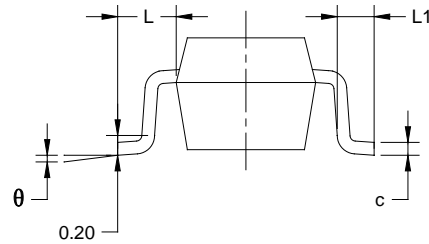
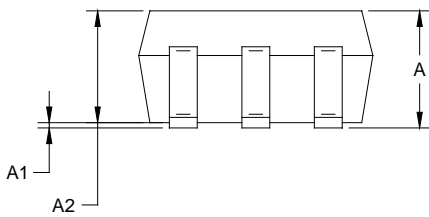
CONTROL INPUT (C)	SWITCH
L	OFF
H	ON

PACKAGE OUTLINE DIMENSIONS

SC70-5



RECOMMENDED LAND PATTERN (Unit: mm)



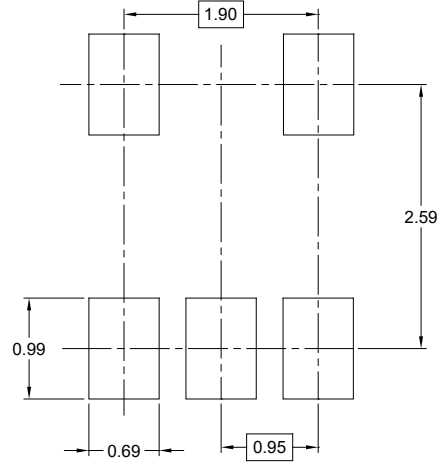
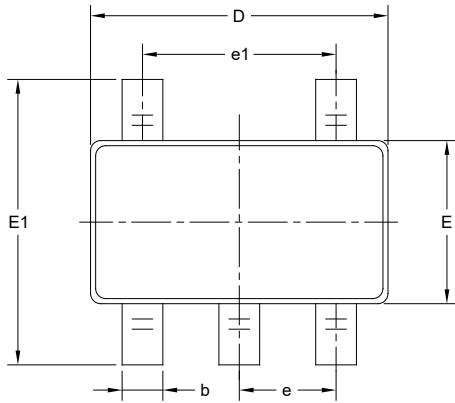
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.800	1.100	0.031	0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.031	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.220	0.003	0.009
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.65 TYP		0.026 TYP	
e1	1.300 BSC		0.051 BSC	
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

NOTES:

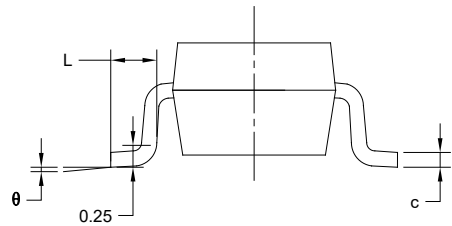
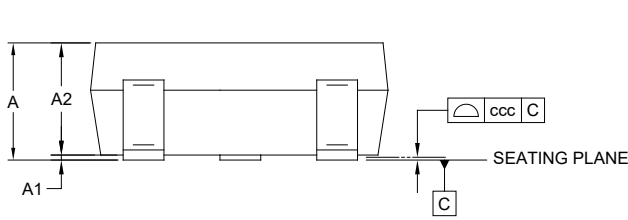
1. Body dimensions do not include mode flash or protrusion.
2. This drawing is subject to change without notice.

PACKAGE OUTLINE DIMENSIONS

SOT-23-5



RECOMMENDED LAND PATTERN (Unit: mm)



Symbol	Dimensions In Millimeters		
	MIN	MOD	MAX
A	-	-	1.450
A1	0.000	-	0.150
A2	0.900	-	1.300
b	0.300	-	0.500
c	0.080	-	0.220
D	2.750	-	3.050
E	1.450	-	1.750
E1	2.600	-	3.000
e	0.950 BSC		
e1	1.900 BSC		
L	0.300	-	0.600
θ	0°	-	8°
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-178.

PACKAGE INFORMATION

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
SC70-5	7"	9.5	2.40	2.50	1.20	4.0	4.0	2.0	8.0	Q3
SOT-23-5	7"	9.5	3.20	3.20	1.40	4.0	4.0	2.0	8.0	Q3

DD0001

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

DD0002