



SGM48755X

High Isolation and Low Leakage 4:1 CMOS Analog Signal Multiplexer

GENERAL DESCRIPTION

The SGM48755X is a 4:1 CMOS analog signal multiplexer. It operates from 2.5V to 5.5V single power supply and all digital inputs support 1.8V logic control.

Other features include low voltage, high off-isolation and low off-leakage current. The high performances make it very suitable for multiple applications,

such as cellular phones, audio and video signal routing, etc.

The SGM48755X is available in a Green MSOP-10 package. It operates over an ambient temperature range of -40°C to +125°C.

FEATURES

- **Single Supply Voltage Range: 2.5V to 5.5V**
- **On-Resistance: 27Ω (TYP) with 5V Supply**
- **“T” Type Switch**
- **1.8V Logic Compatible**
- **Low On-Resistance Flatness**
- **High Off-Isolation: -85dB ($R_L = 50\Omega$, $f = 1\text{MHz}$)**
- **Low Off-Leakage Current: $\pm 1\mu\text{A}$ (MAX)**
- **Low On-Leakage Current: $\pm 1\mu\text{A}$ (MAX)**
- **Low Distortion: 0.33% ($R_L = 600\Omega$, $f = 20\text{Hz}$ to 20kHz)**
- **-40°C to +125°C Operating Temperature Range**
- **Available in a Green MSOP-10 Package**

APPLICATIONS

Automotive
Portable Equipment
Sample-and-Hold Circuits
Data-Acquisition Systems
Battery-Powered Systems
Audio and Video Signal Routing

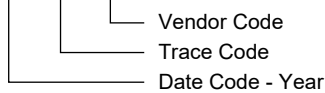
PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM48755X	MSOP-10	-40°C to +125°C	SGM48755XMS10G/TR	SGM0G7 XMS10 XXXXX	Tape and Reel, 4000

MARKING INFORMATION

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

XXXXX



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

V _{CC} to GND	-0.3V to 6V
Voltage into Any Terminal ⁽¹⁾	-0.3V to (V _{CC} + 0.3V)
Continuous Current into Any Terminal.....	±20mA
Peak Current (Pulsed at 1ms, 10% duty cycle).....	±40mA
Junction Temperature.....	+150°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10s).....	260°C
ESD Susceptibility	
HBM.....	6000V
CDM	1000V

NOTE:

1. Internal diodes will clamp the voltage on any signal that is lower than GND. Limit the current through the forward diode to the maximum ratings.

RECOMMENDED OPERATING CONDITIONS

Supply Voltage Range	2.5V to 5.5V
Operating Temperature Range	-40°C to +125°C

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.

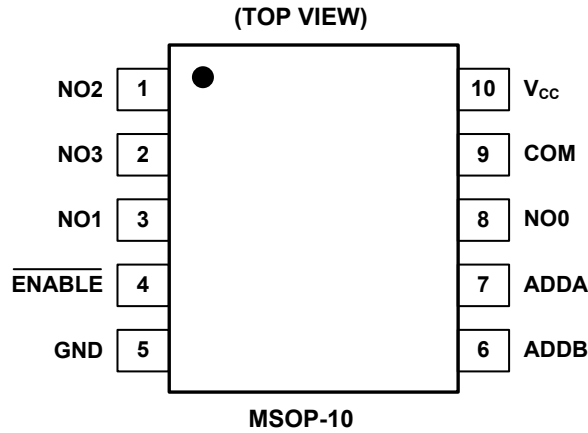
ESD SENSITIVITY CAUTION

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 CONFIGURATION



PIN DESCRIPTION

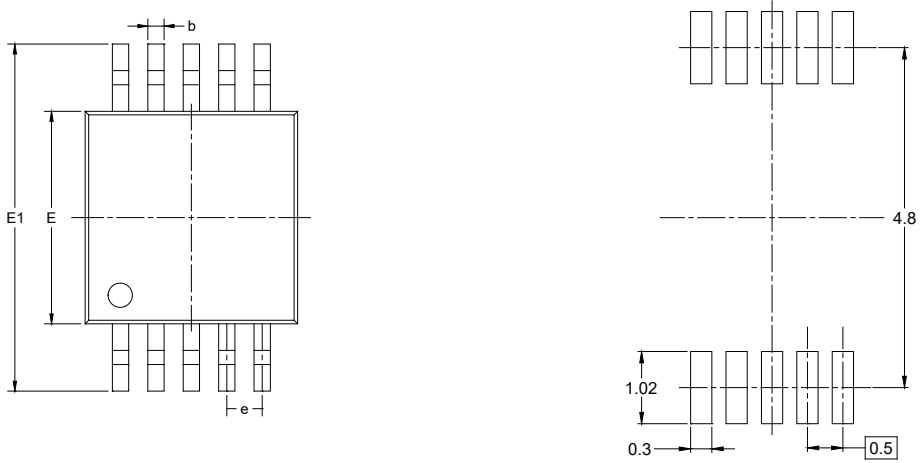
PIN	NAME	FUNCTION
1	NO2	Analog Switch Normally Open Input Pin 2.
2	NO3	Analog Switch Normally Open Input Pin 3.
3	NO1	Analog Switch Normally Open Input Pin 1.
4	$\overline{\text{ENABLE}}$	Digital Enable Input Pin. Drive $\overline{\text{ENABLE}}$ low or connect to GND for normal operation. Drive $\overline{\text{ENABLE}}$ high or connect to V_{CC} to turn all switches off.
5	GND	Ground.
6	ADDB	Logic-Level Address Input Pin.
7	ADDA	Logic-Level Address Input Pin.
8	NO0	Analog Switch Normally Open Input Pin 0.
9	COM	Analog Switch Common Pin.
10	V_{CC}	Positive Analog and Digital Supply Voltage Input Pin.

NOTE:

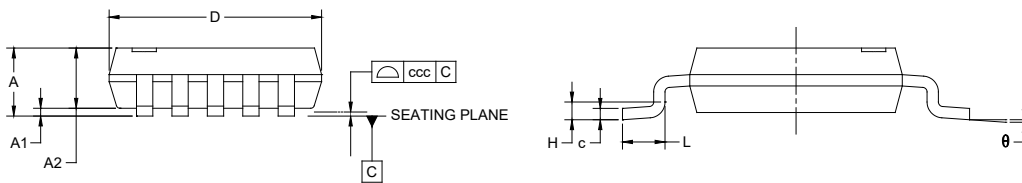
Any input pin can be used as an output pin, and any output pin can also be used as an input pin. Signal transmission in both directions is equally well.

PACKAGE OUTLINE DIMENSIONS

MSOP-10



RECOMMENDED LAND PATTERN (Unit: mm)



Symbol	Dimensions In Millimeters		
	MIN	MOD	MAX
A	-	-	1.100
A1	0.000	-	0.150
A2	0.750	-	0.950
b	0.170	-	0.330
c	0.080	-	0.230
D	2.900	-	3.100
E	2.900	-	3.100
E1	4.750	-	5.050
e	0.500 BSC		
H	0.250 TYP		
L	0.400	-	0.800
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-187.

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
MSOP-10	13"	12.4	5.20	3.30	1.50	4.0	8.0	2.0	12.0	Q1

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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
13"	386	280	370	5

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