GENERAL DESCRIPTION

The SGM4588 is an 8-channel single-ended CMOS analog multiplexer. The SGM4589 is a dual 4-channel differential CMOS analog multiplexer. The SGM4588 has eight input terminals and a common output terminal, which is determined by the 3-bit binary address (A_0, A_1, A_2). The SGM4589 has four differential input terminals and a common output terminal, which is determined by its 2-bit binary address (A_0, A_1).

The SGM4588 and SGM4589 can be enabled/disabled by controlling the EN pin. Besides, all control terminals support 1.8V input logic over the full temperature range. Other key features include low on-resistance, low power consumption and low charge injection. When multiple devices are stacked, the presence of the EN function allows resetting the multiplexer/demultiplexer to a state where all switches are off. Each channel blocks the voltage to the power track in the off state.

The high performances of SGM4588 and SGM4589 make them ideal for applications such as single/dual signal power supply systems, ATE systems, high-speed data acquisition systems and medical equipment.

The SGM4588 and SGM4589 are available in Green SOIC-16 and TSSOP-16 packages. It is specified -40℃ to +85℃ temperature range.

FEATURES

- ±4.5V to ±20V Dual Supply Operation
- 4.5V to 40V Single Supply Operation
- Low On-Resistance: 23Ω (TYP)
- Low Charge Injection: 18pC
- Fast Transition Time: 180ns
- 1.8V Control Logic
- Reduced Switching Errors
- Reduced Glitching
- Improved Data Throughput
- Reduced Power Consumption
- Increased Ruggedness
- -40℃ to +85℃ Operating Temperature Range
- Available in Green SOIC-16 and TSSOP-16 Packages

APPLICATIONS

Communications Systems
Battery Powered Systems
Data Acquisition Systems
Single/Dual Signal Power Supply Systems
Medical Equipment

PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM4588	SOIC-16	-40℃ to +85℃	SGM4588YS16G/TR	SGM4588YS16 XXXXX	Tape and Reel, 2500
	TSSOP-16	-40℃ to +85℃	SGM4588YTS16G/TR	SGM4588 YTS16 XXXXX	Tape and Reel, 4000
SGM4589	SOIC-16	-40℃ to +85℃	SGM4589YS16G/TR	SGM4589YS16 XXXXX	Tape and Reel, 2500
	TSSOP-16	-40℃ to +85℃	SGM4589YTS16G/TR	SGM4589 YTS16 XXXXX	Tape and Reel, 4000

MARKING INFORMATION

NOTE: XXXXX = Date Code and Vendor Code.

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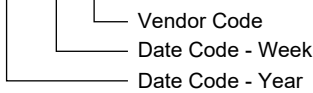
Green (RoHS & HSF): SG Micro Corp defines "Green" to mean Pb-Free (RoHS compatible) and free of halogen substances. If you have additional comments or questions, please contact your SGMICRO representative directly.

ABSOLUTE MAXIMUM RATINGS

Voltages Referenced to V_{EE}

V_{CC} 44V

GND 25V

Digital Inputs [1], V_S, V_D

(V_{EE} - 0.3V) to (V_{CC} + 0.3V) or 20mA, whichever occurs first

Current (Any Terminal) 30mA

Peak Current, S_X or D_X

(Pulsed at 1ms, 10% Duty Cycle Max.) 100mA

Storage Temperature Range .... -65℃ to +150℃

Junction Temperature...................................... 150℃

Lead Temperature (Soldering, 10s) .... 260℃

ESD Susceptibility

HBM.. 4000V

MM.. 300V

NOTE:

1. Internal diodes will clamp any signals on Sx, Dx, or INx that exceed V_{CC} or V_{EE}. Limit the current through the forward diode to the maximum ratings.

RECOMMENDED OPERATING CONDITIONS

Operating Temperature Range .... -40℃ to +85℃

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.
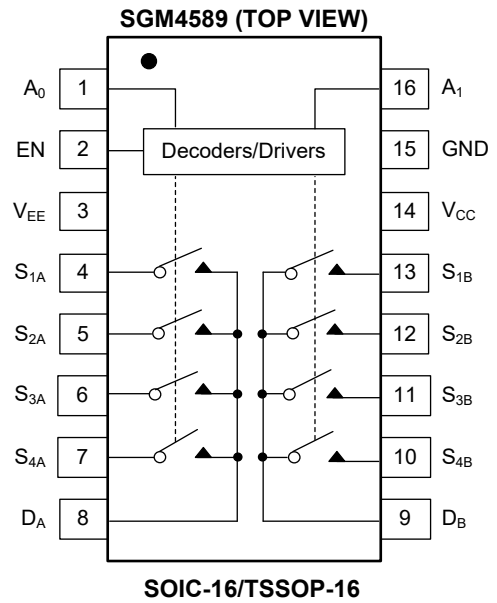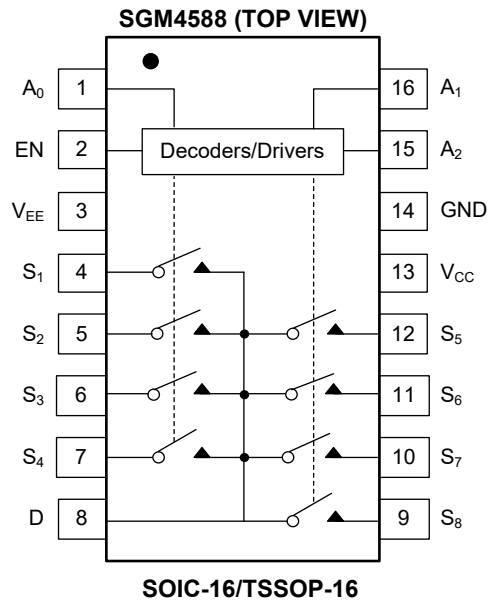
ESD SENSITIVITY CAUTION

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.
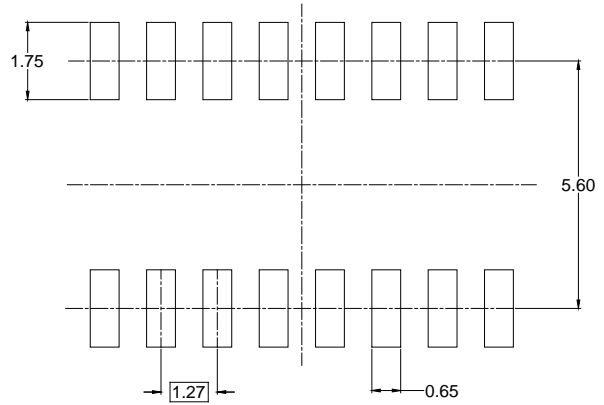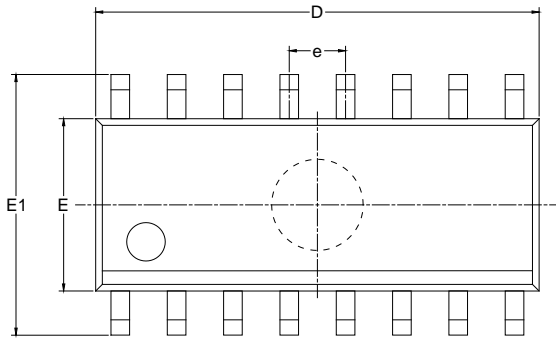
DISCLAIMER

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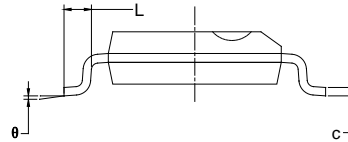
PIN CONFIGURATIONS

SGM4588 (TOP VIEW)
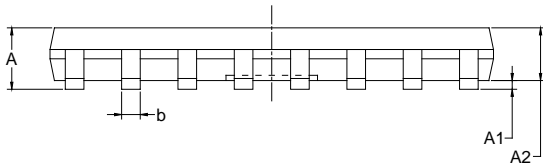
Pin	Signal		Pin	Signal
1	A_0		16	A_1
2	EN		15	A_2
3	V_{EE}		14	GND
4	S_1		13	V_{CC}
5	S_2		12	S_5
6	S_3		11	S_6
7	S_4		10	S_7
8	D		9	S_8

Decoders/Drivers

SOIC-16/TSSOP-16

SGM4589 (TOP VIEW)

Pin	Signal		Pin	Signal
1	A_0		16	A_1
2	EN		15	GND
3	V_{EE}		14	V_{CC}
4	S_{1A}		13	S_{1B}
5	S_{2A}		12	S_{2B}
6	S_{3A}		11	S_{3B}
7	S_{4A}		10	S_{4B}
8	D_A		9	D_B

Decoders/Drivers

SOIC-16/TSSOP-16

PACKAGE OUTLINE DIMENSIONS

SOIC-16

RECOMMENDED LAND PATTERN (Unit: mm)

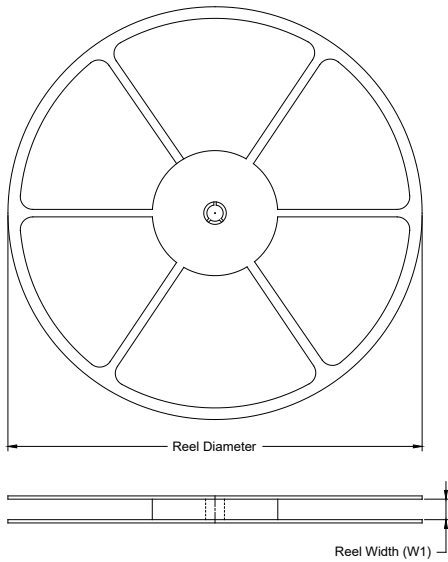| Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	9.800	10.200	0.386	0.402
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.27 BSC		0.050 BSC	
L	0.400	1.270	0.016	0.050
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.

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PACKAGE OUTLINE DIMENSIONS

TSSOP-16
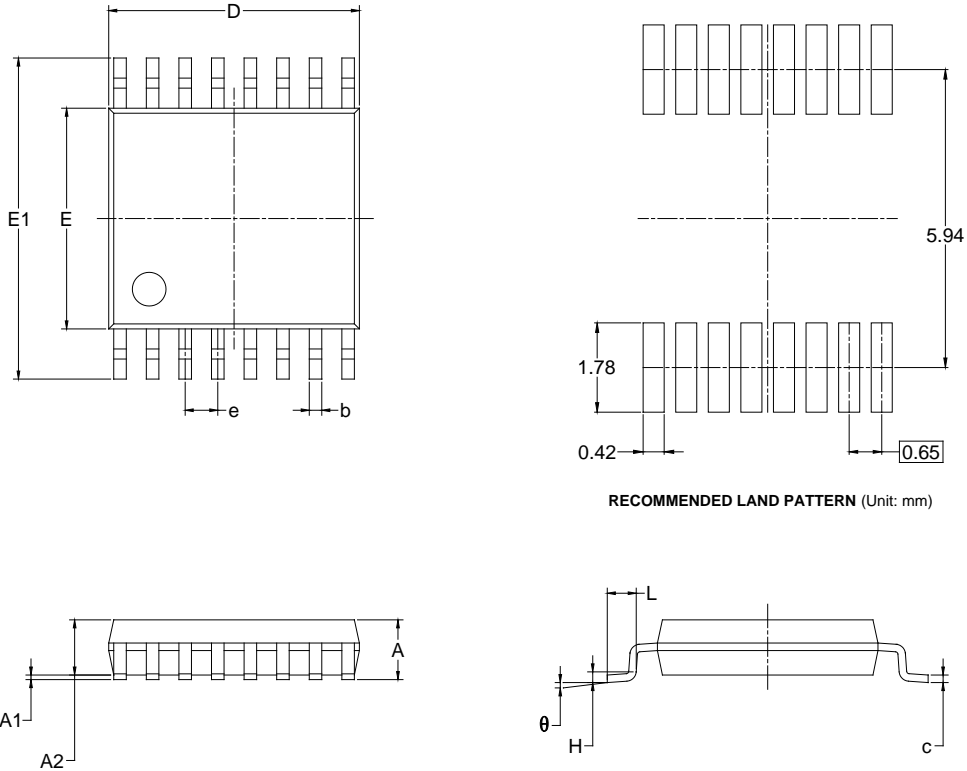
RECOMMENDED LAND PATTERN (Unit: mm)

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A		1.200		0.047
A1	0.050	0.150	0.002	0.006
A2	0.800	1.050	0.031	0.041
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
D	4.860	5.100	0.191	0.201
E	4.300	4.500	0.169	0.177
E1	6.200	6.600	0.244	0.260
e	0.650 BSC		0.026 BSC	
L	0.500	0.700	0.02	0.028
H	0.25 TYP		0.01 TYP	
θ	1°	7°	1°	7°

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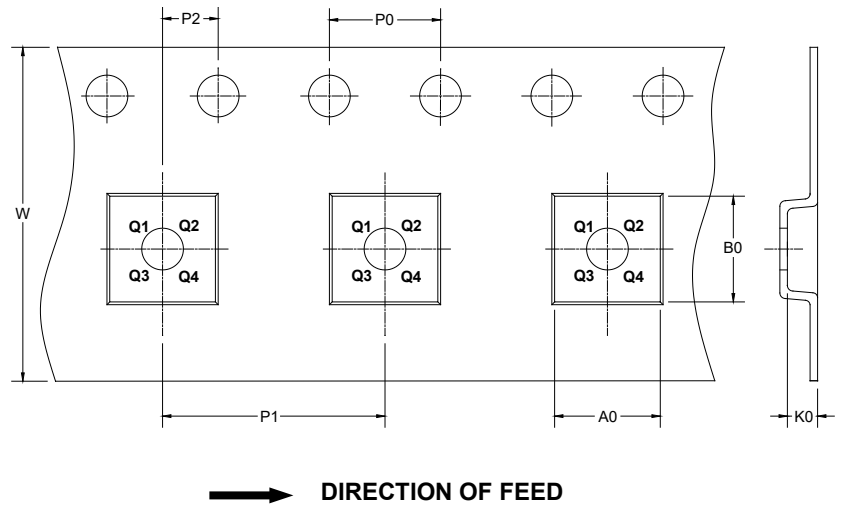2. This drawing is subject to change without notice.

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TAPE AND REEL INFORMATION

REEL DIMENSIONS

TAPE DIMENSIONS

DIRECTION OF FEED

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
SOIC-16	13″	16.4	6.5	10.3	2.1	4.0	8.0	2.0	16.0	Q1
TSSOP-16	13″	12.4	6.9	5.6	1.2	4.0	8.0	2.0	12.0	Q1

DD0001

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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

DD0002

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单击下面可查看定价，库存，交付和生命周期等信息

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