GENERAL DESCRIPTION

The SGM4510 is a low cost, CMOS monolithic, quad single-pole/single-throw (SPST) analog switch. It operates from +4.5V to +40V single power supply or ±4.5V to ±20V dual power supplies.

The SGM4510 is designed with improved charge injection compensation to minimize switching transients. Also, it has an improved continuous current rating of 30mA. In ON conditions, the SGM4510 can provide true bidirectional performance. In OFF condition, the SGM4510 can block the signal to the supply level. These high performances make it very suitable for general purpose switching applications for industrial automation instrument communication systems, portable equipment and etc.

The SGM4510 is available in a Green SOIC-16 package. It is specified over the -40℃ to +85℃ temperature range.

FEATURES

- **Single Supply Voltage Range: +4.5V to +40V**
- **Dual-Supply Voltage Range: ±4.5V to ±20V**
- **1.8V Control Logic**
- **Low On-Resistance: 15.5Ω (TYP)**
- **Fast Switching Times:**
    - t_{ON} **= 120ns**
    - t_{OFF} **= 40ns**
- **Low Charge Injection: 55pC**
- **Simple Logic Interface**
- **Minimum Transients**
- **-40℃ to +85℃ Operating Temperature Range**
- **Available in a Green SOIC-16 Package**

APPLICATIONS

Computer Peripheral Equipment

Disk Drives

Industrial Automation Instruments

Test Equipment

Sampling Hold Circuits

Communications Systems

Portable Equipment

PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM4510	SOIC-16	-40℃ to +85℃	SGM4510YS16G/TR	SGM4510YS16 XXXXX	Tape and Reel, 2500

MARKING INFORMATION

XXXXX = Date Code, Trace Code and Vendor Code.

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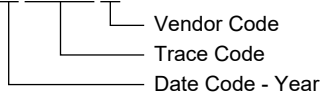
Green (RoHS & HSF): SG Micro Corp defines "Green" to mean Pb-Free (RoHS compatible) and free of halogen substances. If you have additional comments or questions, please contact your SGMICRO representative directly.

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 30mA, whichever occurs first

Current (Any Terminal) 30mA

Peak Current, S_X or D_X

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

Junction Temperature .... +150℃

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

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

ESD Susceptibility

HBM 4000V

CDM 1000V

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.
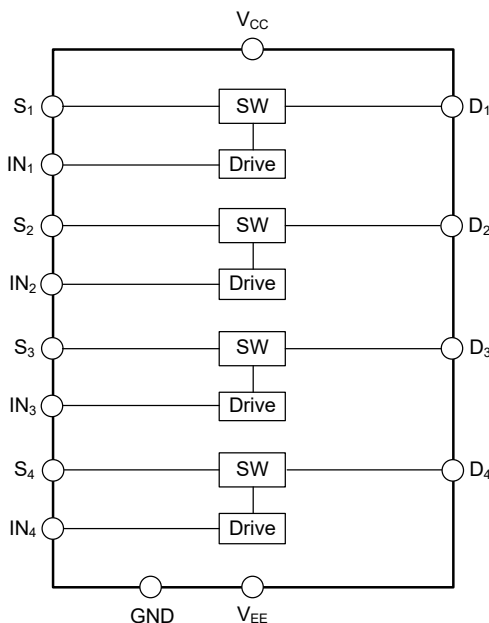
PIN CONFIGURATION

(TOP VIEW)
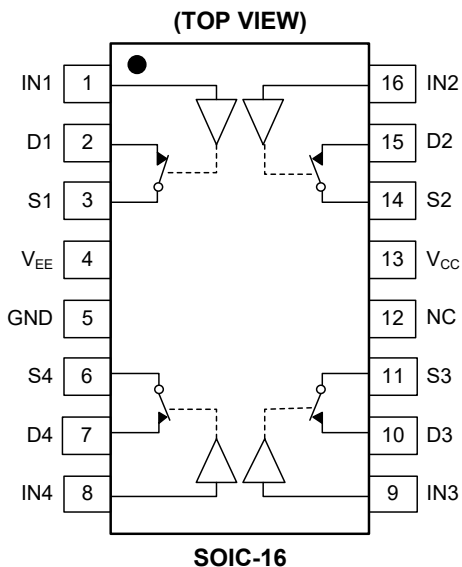
SOIC-16

FUNCTIONAL BLOCK DIAGRAM

Figure 1. Block Diagram

FUNCTION TABLE

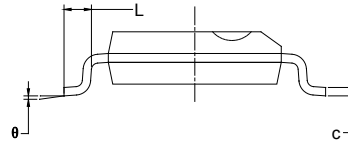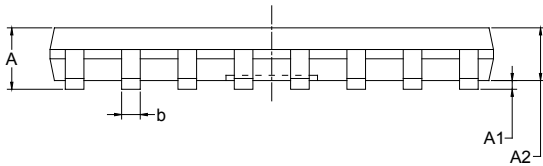| LOGIC	SGM4510
0	ON
1	OFF

NOTES:
1. Logic "0" ≤ 0.5V.
2. Logic "1" ≥ 1.6V.

PACKAGE OUTLINE DIMENSIONS
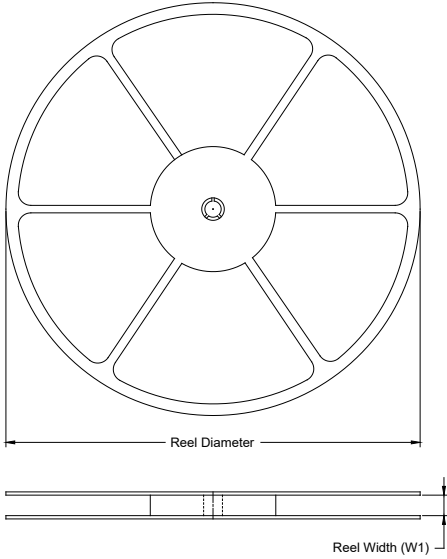
SOIC-16
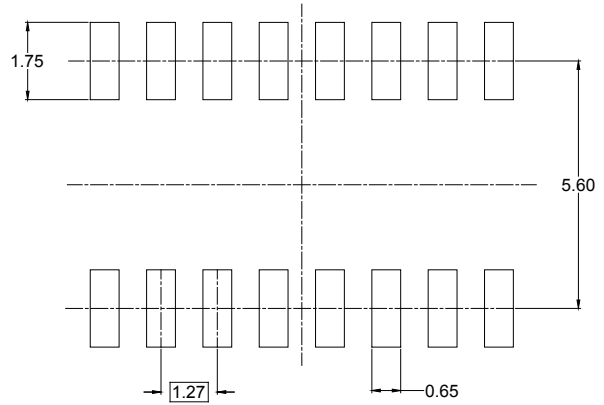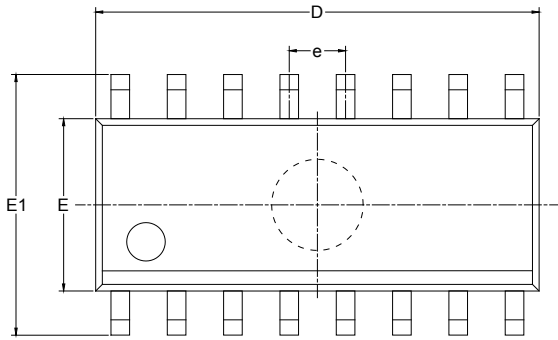
RECOMMENDED LAND PATTERN (Unit: mm)

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°

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TAPE AND REEL INFORMATION

REEL DIMENSIONS

TAPE DIMENSIONS
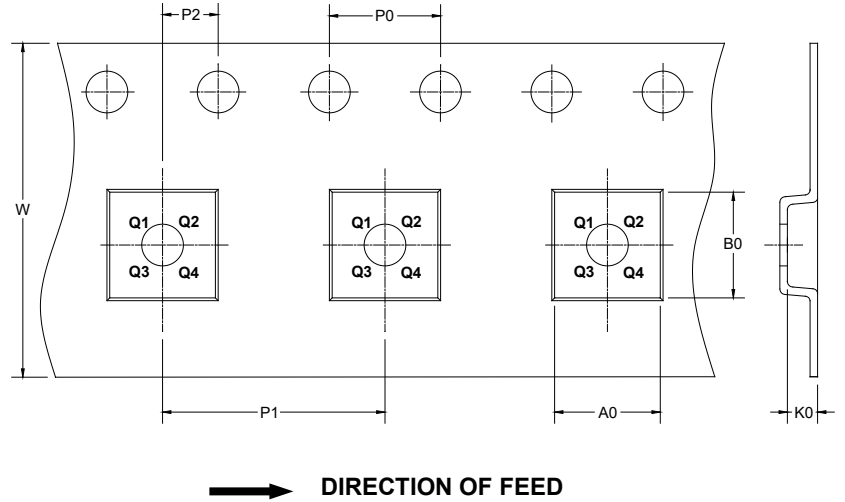
DIRECTION OF FEED

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	6.50	10.30	2.10	4.0	8.0	2.0	16.0	Q1

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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