

GENERAL DESCRIPTION

The SGM3716 is a CMOS, high voltage and negative voltage SPDT (single-pole/double-throw) analog switch. It operates from a -12V to -4V single power supply and allows negative signal passing.

The SGM3716 is available in a Green SC70-6 package. It operates over an operating temperature range of -40°C to +125°C.

FEATURES

- **Operating Voltage Range:** -12V to -4V
- **Switch Signal Voltage Range:** V_{EE} to GND
- **Positive Control Signal Voltage:** 0V to 3.3V
- **Low On-Resistance:** 4.5Ω (TYP) at $V_{EE} = -12V$
- **-40°C to +125°C Operating Temperature Range**
- **Available in a Green SC70-6 Package**

TYPICAL APPLICATION

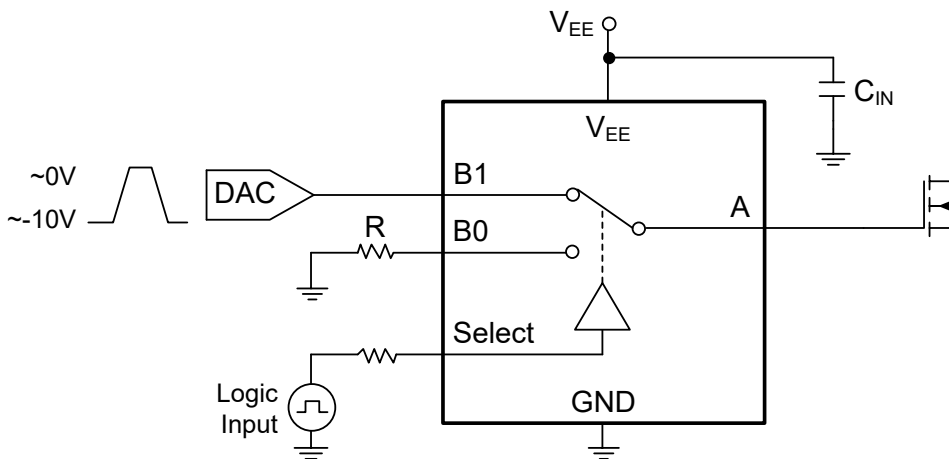


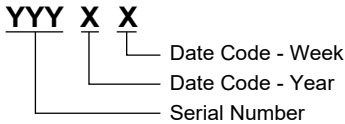
Figure 1. Typical Application Circuit

PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGM3716	SC70-6	-40°C to +125°C	SGM3716XC6G/TR	CB8XX	Tape and Reel, 3000

MARKING INFORMATION

NOTE: XX = Date Code.



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

- DC Supply Voltage Range, V_{EE} -13.2V to 0.3V
- Analog Input Voltage Range, V_{IS} $V_{EE} - 0.3V$ to 0.3V
- Digital Select Input Voltage Range, V_{IN} -0.3V to 3.6V
- Junction Temperature +150°C
- Storage Temperature Range..... -65°C to +150°C
- Lead Temperature (Soldering, 10s) +260°C
- ESD Susceptibility
- HBM..... 4000V
- CDM 2000V

RECOMMENDED OPERATING CONDITIONS

- DC Supply Voltage Range, V_{EE} -12V to -4V
- Switch Input/Output Voltage Range, V_{IS} (B0, B1, A) V_{EE} to GND
- Digital Select Input Voltage Range, $V_{IN}^{(1)}$ GND to 3.3V
- Input Transition Rise or Fall Time (Select Input), $t_r, t_f^{(1)}$ 0ns/V to 100ns/V
- Operating Temperature Range -40°C to +125°C

NOTE:

1. Select input must be held HIGH or LOW. It must not float.

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.

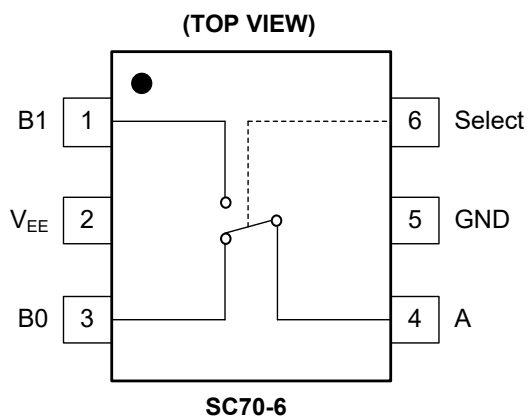
ESD SENSITIVITY CAUTION

This integrated circuit can be damaged if ESD protections are not considered carefully. It 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

We reserve the right to make any change in circuit design, or specifications without prior notice.

PIN CONFIGURATION



PIN DESCRIPTION

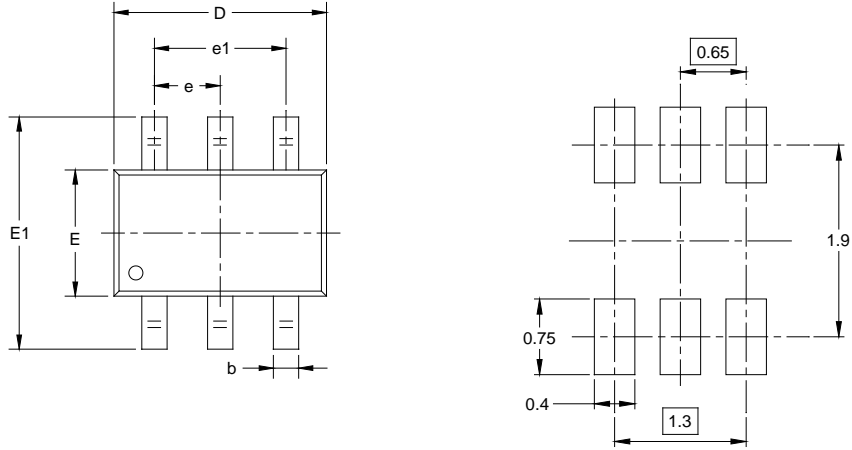
PIN	NAME	FUNCTION
1, 3	B1, B0	Data Ports.
2	V_{EE}	Negative Power Supply Pin.
4	A	Common Terminal/Data Port.
5	GND	Ground.
6	Select	Select Input Pin.

FUNCTION TABLE

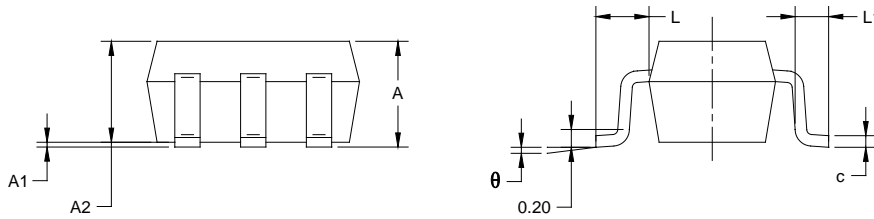
Select PIN	FUNCTION
L	B0 Connected to A
H	B1 Connected to A

PACKAGE OUTLINE DIMENSIONS

SC70-6



RECOMMENDED LAND PATTERN (Unit: mm)

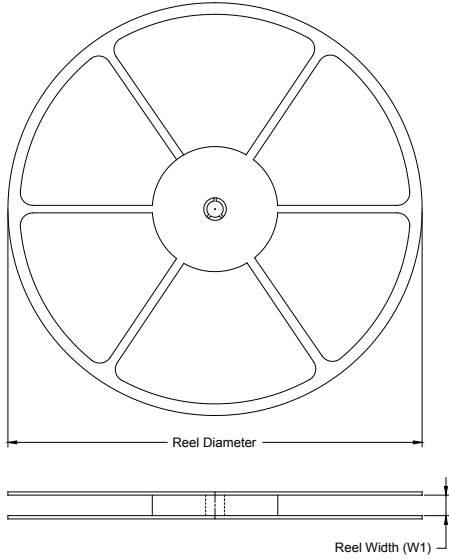


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.800	1.100	0.031	0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.031	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.220	0.003	0.009
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.65 TYP		0.026 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°

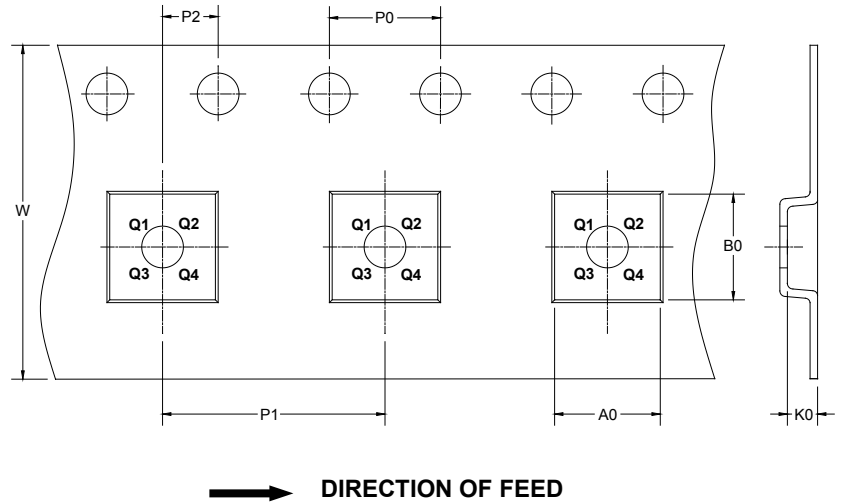
PACKAGE INFORMATION

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
SC70-6	7"	9.5	2.40	2.50	1.20	4.0	4.0	2.0	8.0	Q3

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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
7" (Option)	368	227	224	8
7"	442	410	224	18

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