

## DESCRIPTION

The SGSD05C is transient voltage suppressor arrays designed for ESD protection of smart phones, laptop computers and other portable electronics. These silicon based diodes offer superior clamping voltage and performance compared to other technologies such as MLVs.

The SGSD05C can be utilized as a single line protector in a bidirectional configuration. The SOD-323 small package configuration offers designers the flexibility of placement on the printed circuit board for each I/O port or voltage bus. The SGSD05C meets the IEC 61000-4-2 (ESD), 61000-4-4 (EFT) and 61000-4-5 requirements.

## FEATURES

- > 350 Watts Peak Pulse Power per Line (tp=8/20μs)
- > Protects one I/O or power line
- > Low clamping voltage
- > Working voltages: 5V
- > RoHS Compliant

## APPLICATIONS

- > Cell Phone Handsets and Accessories
- > Microprocessor based equipment
- > Personal Digital Assistants (PDA's)
- > Notebooks, Desktops, and Servers
- > Portable Instrumentation
- > Peripherals
- > Pagers

## IEC COMPATIBILITY

- > IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- > IEC61000-4-4 (EFT) 40A (5/50ns)

## MAXIMUM RATINGS AND CHARACTERISTICS

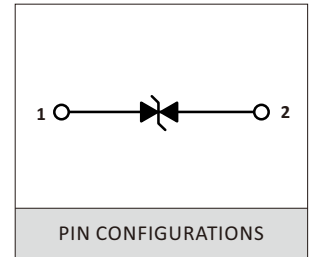
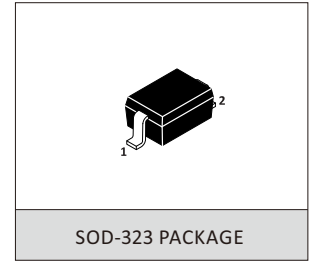
 Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20μs waveform).	PPPM	350	Watts
Operating Temperature Range.	T <sub>J</sub>	-55~+125	°C
Storage Temperature Range.	T <sub>STG</sub>	-55~+150	°C

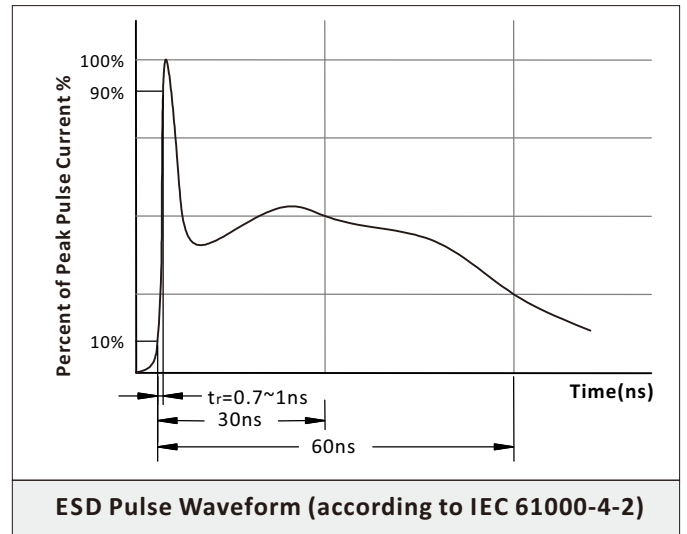
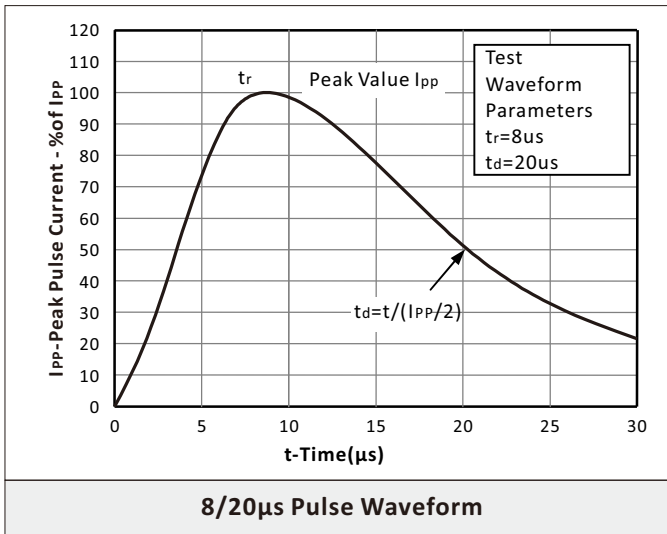
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

## ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Reverse Stand-off Voltage Max. V <sub>RWM</sub> (V)	Breakdown Voltage Min. V <sub>BR</sub> (V)	Test Current I <sub>T</sub> (mA)	Peak Pulse Current Max.@1A V <sub>C</sub> (V)	Peak Pulse Current V <sub>C</sub> (V) Max. @A	Junction Capacitance Typ. C <sub>T</sub> (PF)	Reverse Leakage Max. I <sub>R</sub> (μA)
SGSD05C	2B	5.0	6.0	1	9.8	17 24	260	10

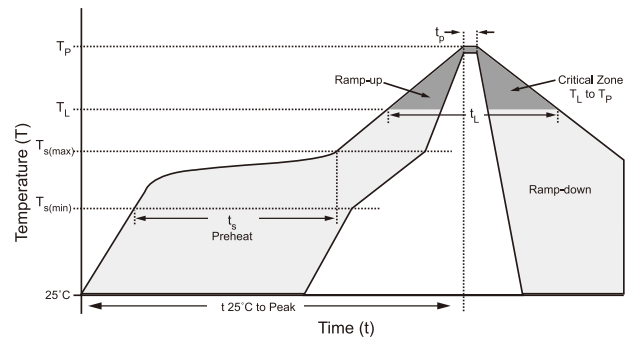


### CHARACTERISTIC CURVES



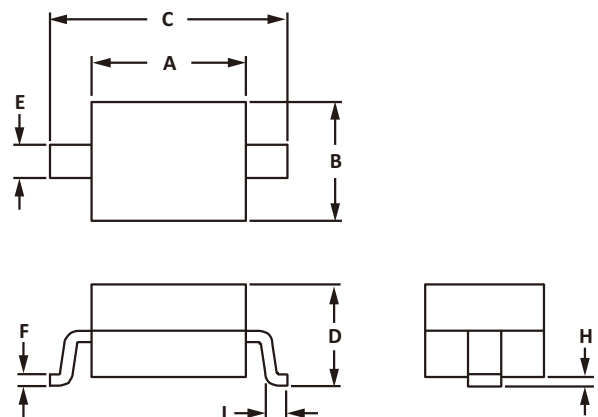
### REFLOW PROFILE

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
Ts(max) to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	Time (min to max) (tl)	60 – 150 seconds
Peak Temperature (TP)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		260°C



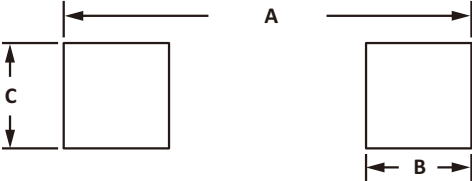
### SOD-323 PACKAGE INFORMATION

OUTLINEDIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.30	2.70	0.090	0.106
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.089	0.20	0.003	0.008
H	-	0.10	-	0.004
L	0.20	-	0.008	-



### RECOMMENDED PAD LAYOUT DIMENSIONS

PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036



### ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SGSD05C	SOD-323	3000PCS	7"