

## DESCRIPTION

The SESD12C 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 SESD12C 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 SESD12C 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: 12.0V
- > 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)

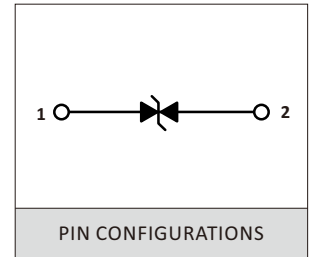
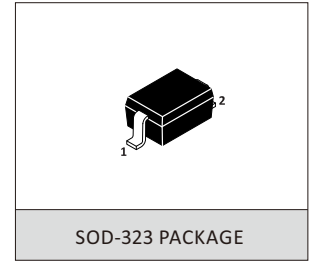
## MAXIMUM RATINGS AND CHARACTERISTICS Ratings at 25°C ambient temperature unless otherwise specified.

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

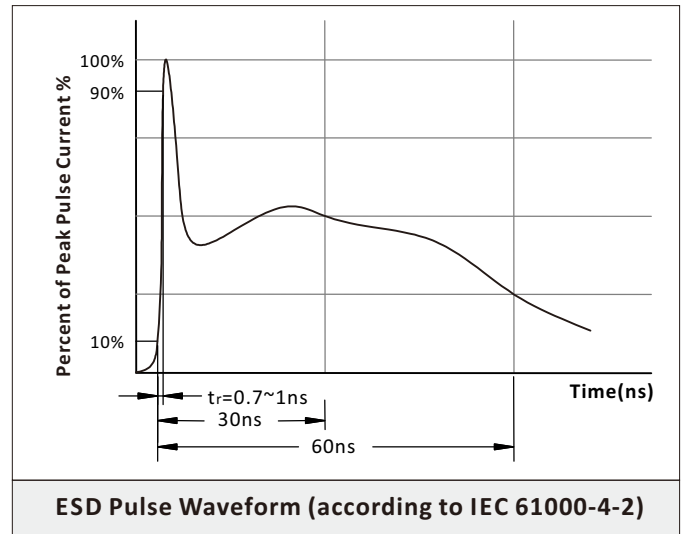
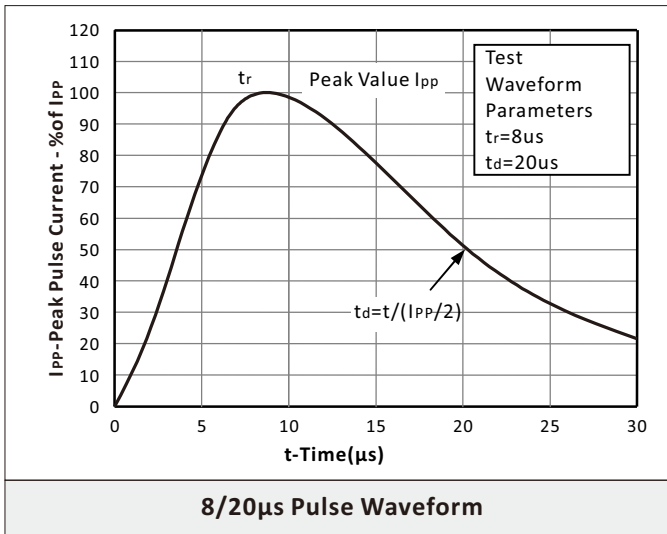
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

## ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Reverse Stand-off Voltage Max.	Breakdown Voltage Min.	Test Current	Vc(V) Max.@1A	Vc(V)		Junction Capacitance Max.	Reverse Leakage Max.
		V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	Vc(V)	Max.	@A	C <sub>T</sub> (PF)	I <sub>R</sub> (μA)
SESD12C	2D	12.0	13.3	1	19	32	11	75	1

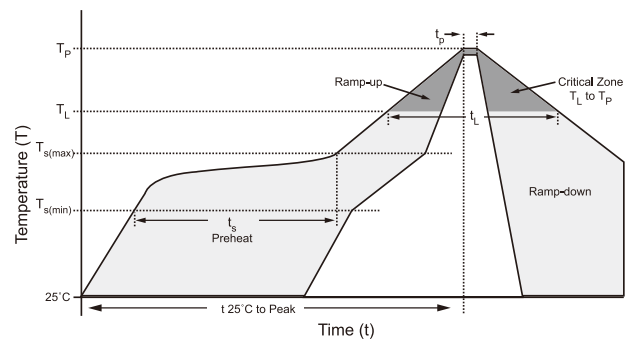


### CHARACTERISTIC CURVES



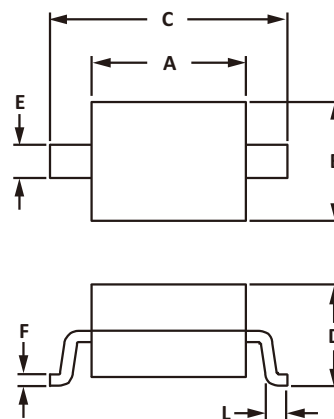
### REFLOW PROFILE

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



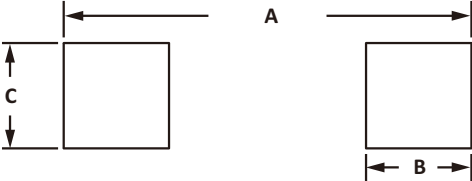
### SOD-323 PACKAGE INFORMATION

DIM	OUTLINEDIMENSIONS			
	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
SESD12C	SOD-323	3000PCS	7"

### CONTACT US

#### Headquarters

No.3387 Shendu Road Pujiang I&E Park Minhang Shanghai  
China

#### Hotline

400-021-5756

#### Web

[Http://www.semiware.com.cn](http://www.semiware.com.cn)

#### By Telephone

General: 86-21-3463-7172

Sales: 86-21-3463-7345

Technical Support: 86-21-34637172-8811

#### By Fax

General: 86-21-3965-0654

Sales: 86-21-3463-7458

#### By Email

General: [china@semiware.com.cn](mailto:china@semiware.com.cn)

Sales: [sales33@semiware.com.cn](mailto:sales33@semiware.com.cn)

Technical Support: [fae03@semiware.com.cn](mailto:fae03@semiware.com.cn)

COPYRIGHT ©Semiware 2017 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: Semiware reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES : Semiware reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance.Semiware assumes no responsibility with respect to the selection or specifications of such products.Semiware makes no warranty,representation or guarantee regarding the suitability of its products for any particular purpose, nor does Semiware assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special,consequential or incidental damages.

LIFE SUPPORT POLICY: Semiware products are not authorized for use in life support systems without written consent from the factory

