

## DESCRIPTION

The SESMxx series are transient voltage suppressor (TVS) arrays, designed for power or data line applications that provide protection against ESD, tertiary lightning and switching transients. This series offers low clamping voltage for the protection of sensitive interfaces.

## FEATURES

- > 350 Watts peak pulse power per Line( $t_p=8/20\mu S$ )
- > Protects one bidirectional line or two unidirectional lines
- > Low clamping voltage
- > RoHS Compliant

## APPLICATIONS

- > Cellular Handsets and Accessories
- > Portable Electronics
- > Industrial Controls
- > Set-Top Box
- > Instrumentation
- > Servers, Notebook, and Desktop PC

## IEC COMPATIBILITY

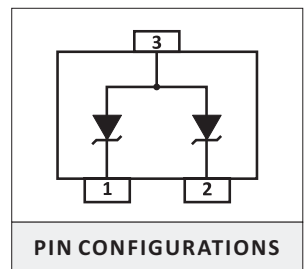
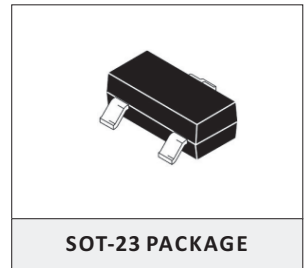
- > IEC61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- > IEC61000-4-4 (EFT) 40A (5/50ns)

## MAXIMUM RATINGS @ 25°C UNLESS OTHERWISE SPECIFIED

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PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power ( $t_p=8/20\mu s$ waveform)	$P_{PP}$	350	Watts
Operating Temperature Range	$T_J$	-55~125	°C
Storage Temperature Range	$T_{STG}$	-55~150	°C

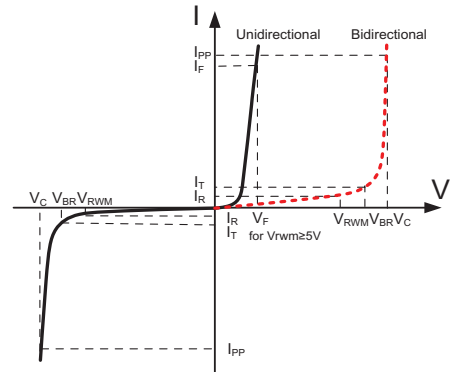
## ELECTRICAL CHARACTERISTICS PER LINE @ 25°C UNLESS OTHERWISE SPECIFIED

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PART NUMBER	DEVICE MARKING	$V_{RWM}$ (V) Max.	$V_{BR}$ (V) Min.	$I_T$ (mA)	$V_c$ @1A Max.	$V_c$		$I_R$ (uA) Max.	$C_T$ (pF) Max.
						Max.	@A		
SESM03	M03	3.3	4.0	1	6.5	15.0	25	100	400
SESM05	M05	5.0	6.0	1	9.8	16.0	24	10	300
SESM08	M08	8.0	8.5	1	13.4	19.0	18	5	250
SESM12	M12	12.0	13.3	1	19.0	24.0	13	1	150
SESM15	M15	15.0	16.7	1	24.0	28.0	6	1	100
SESM24	M24	24.0	26.7	1	43.0	52.0	6	1	90
SESM36	M36	36.0	40.0	1	51	75.0	4	1	60

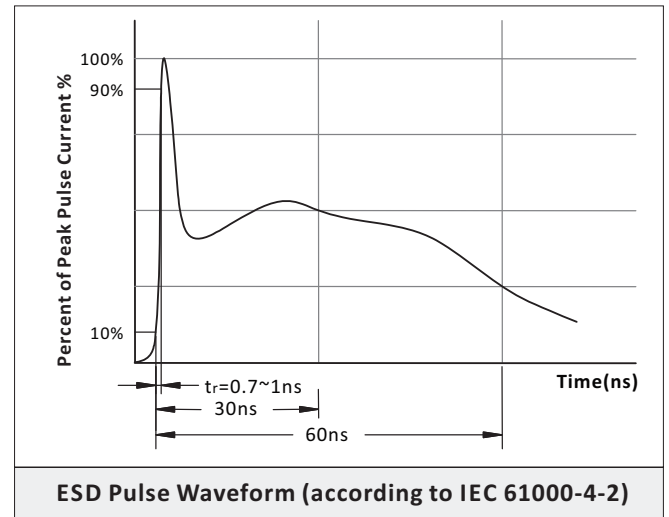
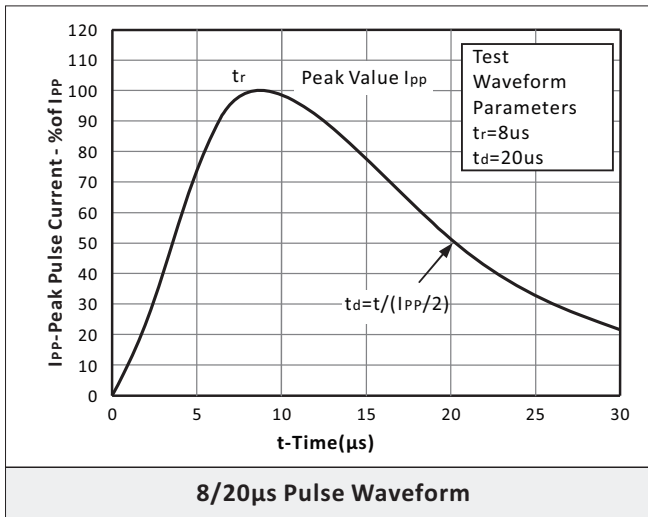


### ELECTRICAL PARAMETERS (T=25°C)

Symbol	Parameter
$I_{PP}$	Reverse Peak Pulse Current
$V_C$	Clamping Voltage@ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Reverse Leakage Current@ $V_{RWM}$
$V_{BR}$	Breakdown Voltage@ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage@ $I_F$

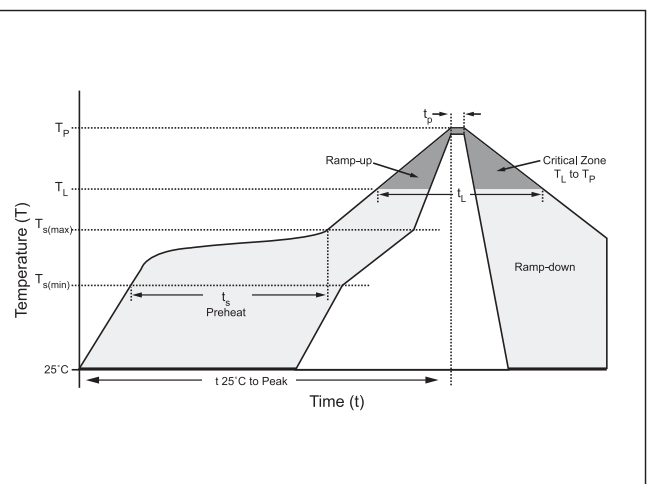


### CHARACTERISTIC CURVES



### SOLDERING PARAMETERS

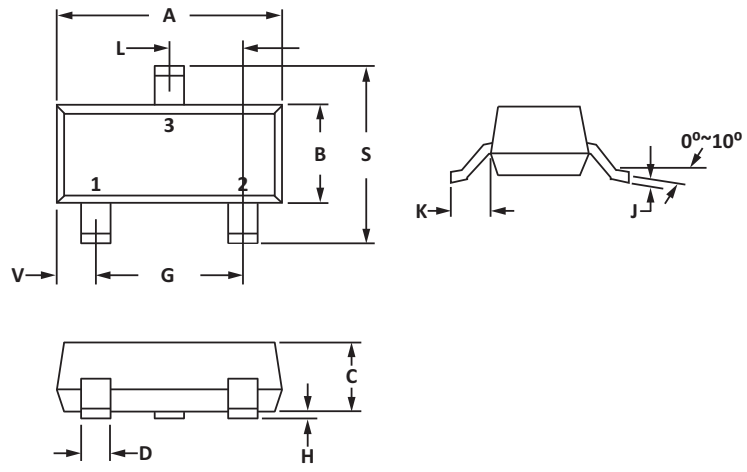
Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
Ts(max) to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	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



### SOT-23 PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.013	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

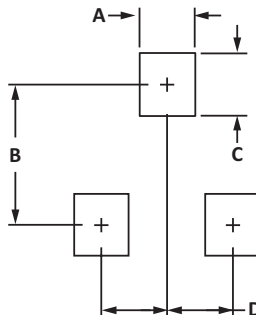
**NOTES**  
1. Controlling dimension: inches.  
2. Dimensions are exclusive of mold flash and metal burrs.



### RECOMMENDED PAD LAYOUT DIMENSION

PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

**NOTES**  
1. Controlling dimension: inches.



### ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SESMXX	SOT-23	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)

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