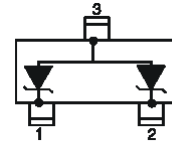


## Description

The SESxxxT23-3 series are Bi-directional Transient Voltage Suppressor Arrays that designed to protect components which are connected to data and transmission lines against electrostatic discharge(ESD), electrical fast transients(EFT), and lightning.

All pins are rated to withstand 20kv ESD pulses using the IEC 61000-4-2 contact discharge method, which can meet the requirement of Level 4, "Human Body Model" for air and contact discharge.



## Feature

- 500 Watts peak pulse power ( $t_p=8/20\mu s$ )
- Low clamping voltage
- Protects one bidirectional or two unidirectional lines
- Working voltages: 3V, 5V, 8V, 12V, 15V
- ESD Protection > 40 kilovolts
- Complies with
  - 61000-4-2(ESD):Air-15kV, Contact-8kV
  - 61000-4-4(EFT):40A-5/50ns
  - 61000-4-5(Surge):24A, 8/20[s

## Applications

- Cellular Handsets and Accessories
- Portable Electronics
- Control & Monitoring Systems
- Servers, Notebooks, and Desktop PCs
- Set-Top Box
- Communication Systems

## Electrical characteristics

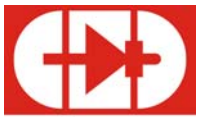
Symbol	Parameter
$V_{RM}$	Stand-off voltage
$V_{BR}$	Breakdown voltage
$V_{CL}$	Clamping voltage
$I_R$	Leakage current
$I_{PP}$	Peak pulse current
$\alpha_T$	Voltage temperature coefficient
$C_j$	Capacitance
$R_d$	Dynamic resistance
$V_F$	Forward voltage drop

**Absolute maximum rating**

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu S$ )	$P_{pp}$	500	Watts
Operating Temperature	$T_J$	-55 to +150	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

**Electrical characteristics @25°C (unless otherwise specified)**

Device	$V_{RWM}$	$I_R$ @ $V_{RWM}$	Breakdown Voltage@ 1mA		$C_j$ pF	$V_C$	
			$V_{BR}$ Volts (Note 2.)			$V_C@$	$V_C@$
						$I_{PP}=1A$	$I_{PP}=5A$
			Volts	uA		Min	Max
SES4VT23-3	4	20.0	5.0	6.2	300	8.5	10.5
SES5VT23-3	5	20.0	6.0	7.4	220	9.8	12.5
SES8VT23-3	8	5.0	8.5	9.9	190	13.4	15.0
SES12VT23-3	12	1.0	13.3	14.7	150	19.0	28.0
SES15VT23-3	15	1.0	16.7	18.1	100	24.0	39.0



Typical Characteristics

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

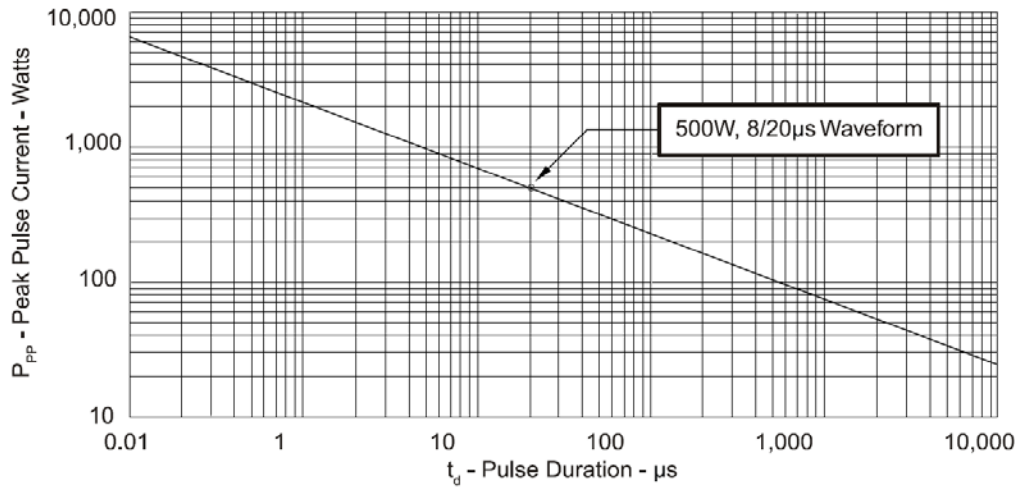


FIGURE 2  
PULSE WAVE FORM

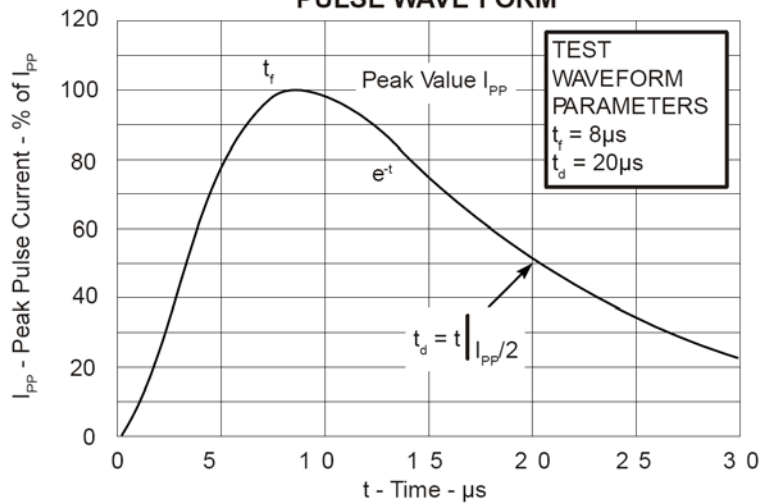
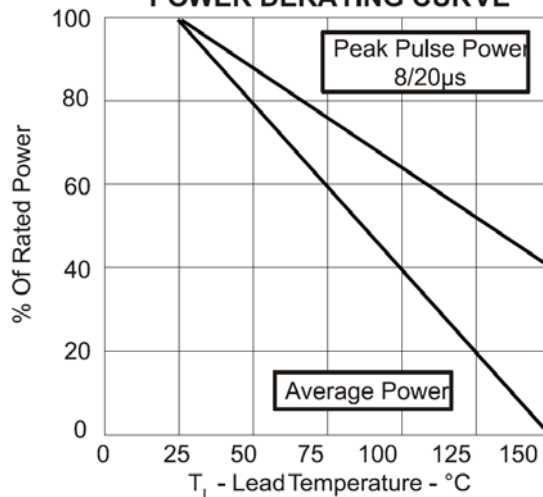
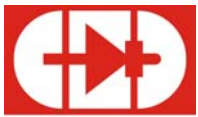


FIGURE 3  
POWER DERATING CURVE





Product dimension and pad size

<p style="text-align: center;">PACKAGE OUTLINE</p>	<p style="text-align: center;">SOT-23</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th rowspan="2">DIM</th> <th colspan="2">MILLIMETERS</th> <th colspan="2">INCHES</th> </tr> <tr> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>2.80</td> <td>3.04</td> <td>0.1102</td> <td>0.1197</td> </tr> <tr> <td>B</td> <td>1.20</td> <td>1.40</td> <td>0.0472</td> <td>0.0551</td> </tr> <tr> <td>C</td> <td>0.89</td> <td>1.11</td> <td>0.0350</td> <td>0.0440</td> </tr> <tr> <td>D</td> <td>0.37</td> <td>0.50</td> <td>0.0150</td> <td>0.0200</td> </tr> <tr> <td>G</td> <td>1.78</td> <td>2.04</td> <td>0.0701</td> <td>0.0807</td> </tr> <tr> <td>H</td> <td>0.013</td> <td>0.100</td> <td>0.0005</td> <td>0.0040</td> </tr> <tr> <td>J</td> <td>0.085</td> <td>0.177</td> <td>0.0034</td> <td>0.0070</td> </tr> <tr> <td>K</td> <td>0.45</td> <td>0.60</td> <td>0.0180</td> <td>0.0236</td> </tr> <tr> <td>L</td> <td>0.89</td> <td>1.02</td> <td>0.0350</td> <td>0.0401</td> </tr> <tr> <td>S</td> <td>2.10</td> <td>2.50</td> <td>0.0830</td> <td>0.0984</td> </tr> <tr> <td>V</td> <td>0.45</td> <td>0.60</td> <td>0.0177</td> <td>0.0236</td> </tr> </tbody> </table>	DIM	MILLIMETERS		INCHES		MIN	MAX	MIN	MAX	A	2.80	3.04	0.1102	0.1197	B	1.20	1.40	0.0472	0.0551	C	0.89	1.11	0.0350	0.0440	D	0.37	0.50	0.0150	0.0200	G	1.78	2.04	0.0701	0.0807	H	0.013	0.100	0.0005	0.0040	J	0.085	0.177	0.0034	0.0070	K	0.45	0.60	0.0180	0.0236	L	0.89	1.02	0.0350	0.0401	S	2.10	2.50	0.0830	0.0984	V	0.45	0.60	0.0177	0.0236
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Revision History

Revision	Date	Changes
1.0	2008-7-3	-