

APPROVAL DRAWING

Surge Components product name
SES12VT23-3 TR (RoHS compliant)

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Surge Components, Inc.

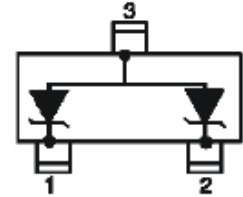
Customer Acknowledgement

Manufacturer Surge Components, Inc.
2009-05-06

1. DESCRIPTION

The SES12T23-3 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), electrostatic fast transient (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 mode" for air and contact discharge



2. FEATURE

- 500 Watts peak pulse power (tp=8/20us)
- Low clamping voltage
- Protects one bidirectional or two unidirectional lines
- Working voltage: 3.3V,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, 8/20us

3. APPLICATION

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

4. ELECTRICAL CHARACTERISTICS PER LINE@25°C(UNLESS OTHERWISE SPECIFIED)

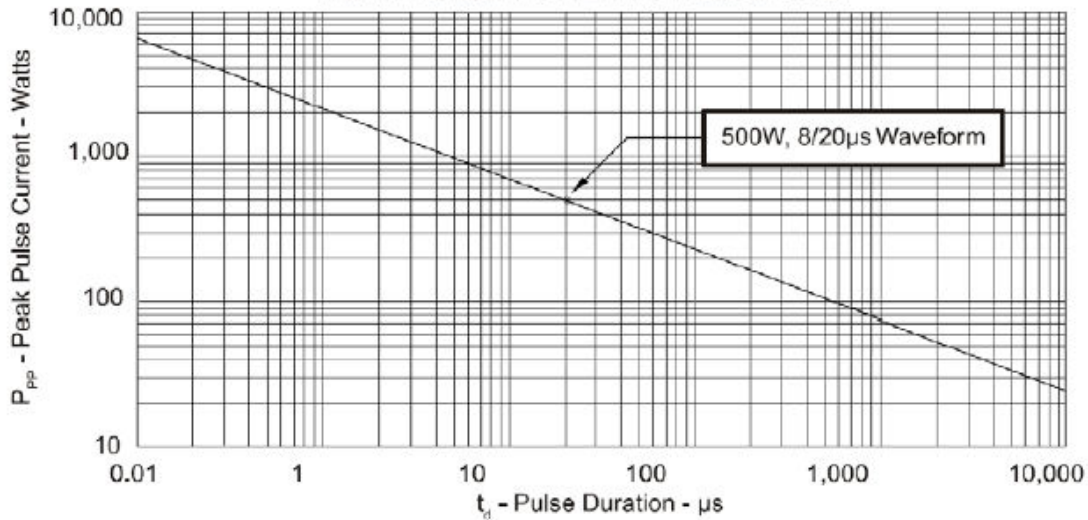
Device	VRWM	Maximum IR @ VRWM	V _{BR} @1mA		C _J	V _C		
			Volts			pF	V _C @ I _{PP} =1A	V _C @ I _{PP} =5A
			Volts	μA			Min	Max
SES3V3T23-3	3.3	2.0	5.0	6.2	300	8.5	10.5	
SES8VT23-3	8	5.0	8.5	9.9	190	13.4	15.0	
SES12VT23-3	12	1.0	13.3	17.5	150	19.0	28.0	
SES15VT23-3	15	1.0	16.7	18.1	100	24.0	39.0	

5. ABSOLUTE MAXIMUM RATING @25°C

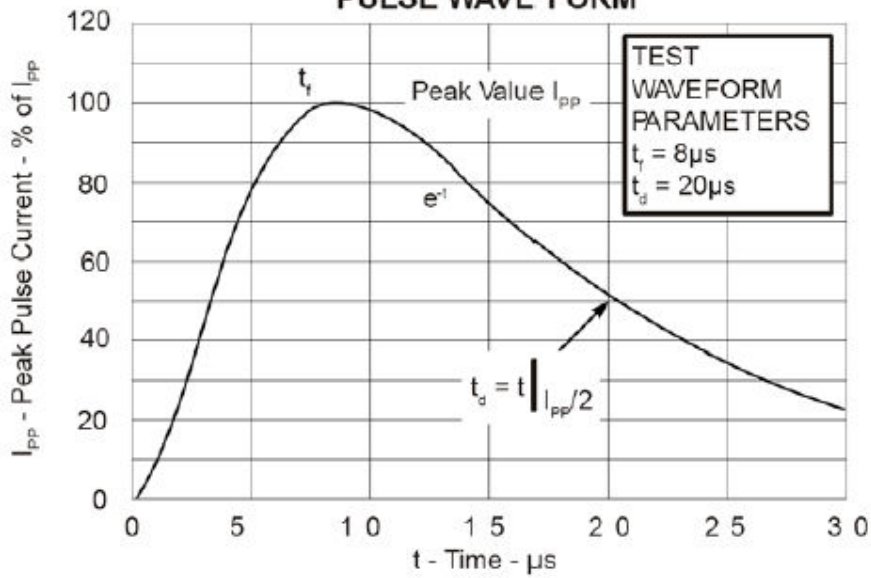
Rating	Symbol	Value	Units
Peak Pulse Power(t _p =8/20μs)	P _{PP}	500	W
Operating Temperature	T _J	-55 to +150	°C
Storage Temperature	T _{STG}	-55 to +150	°C

6.TYPICAL CHARACTERISTICS

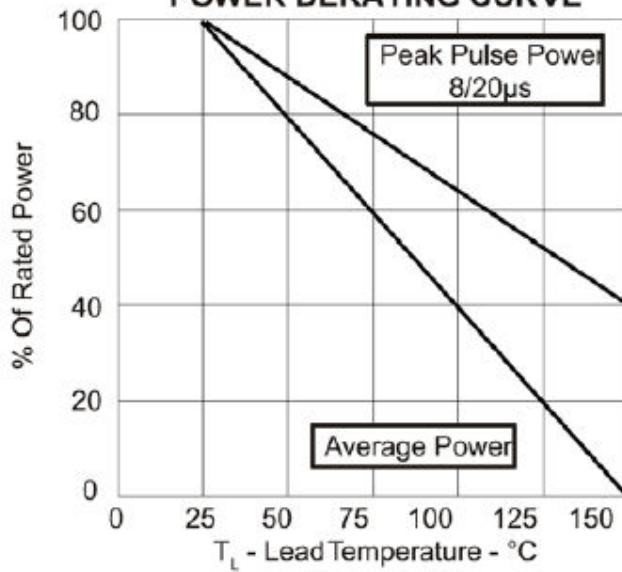
**FIGURE 1
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2
PULSE WAVE FORM**



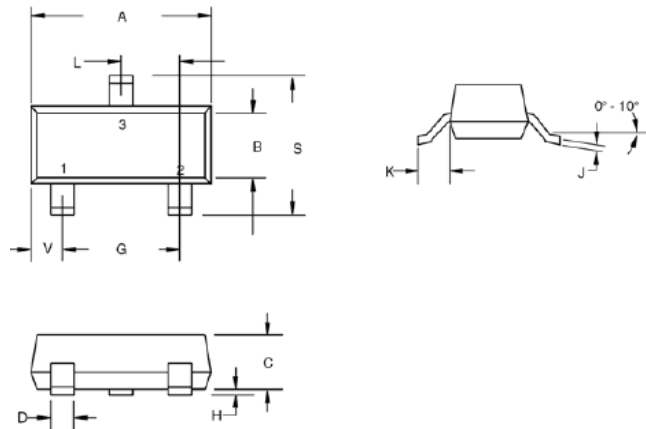
**FIGURE 3
POWER DERATING CURVE**



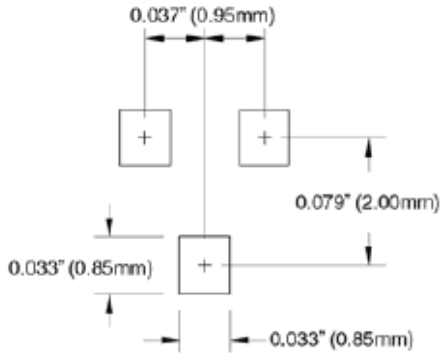
7. PRODUCT DIMENSION

DIM	MILIMETER		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

PACKAGE OUTLINE



MOUNTING PAD



SOT-23

