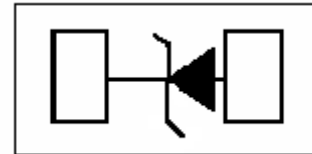


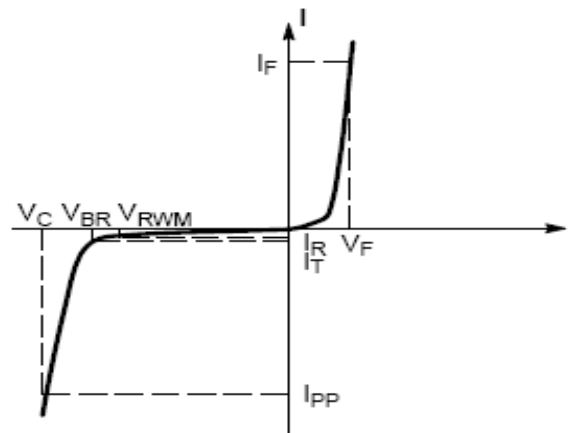
Description

The SES3V3N1006-2U ESD protector is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, lower operating voltage, lower clamping voltage and no device degradation when compared to MLVs. The SES3V3N1006-2U protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. The SES3V3N1006-2U is available in a DFN-2 package with working voltages of 3.3 volt. It gives designer the flexibility to protect one bidirectional line in applications where arrays are not practical. Additionally, it may be "sprinkled" around the board in applications where board space is at a premium. It may be used to meet the ESD immunity requirements of IEC 61000-4-2, Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge).



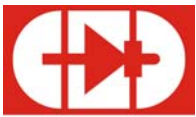
Feature

- 100 Watts peak pulse power ($t_p = 8/20 \mu s$)
- Transient protection for data lines to IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- Small package for use in portable electronics
- Suitable replacement for MLVs in ESD protection applications
- Protect one I/O or power line
- Low clamping voltage
- Stand off voltages: 3.3V
- Low leakage current
- Solid-state silicon-avalanche technology
- Small Body Outline Dimensions: $1.0\text{mm} \times 0.6\text{mm} \times 0.5\text{mm}$
- Equivalent to 0402 package



Applications

- Cell Phone Handsets and Accessories
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Cordless Phones
- Digital Cameras
- Peripherals
- MP3 Players



Electrical characteristics @25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Working Voltage	V_{RWM}				3.3	V
Breakdown voltage	V_{BR}	$I_t=1mA$	5.0			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$ $T=25^\circ C$			2.5	μA
Clamping Voltage	V_C	$I_{PP}=9.8A$ $t_p = 8/20\mu S$			10.4	V
Junction Capacitance	C_j	$V_R=0V$ $f = 1MHz$		12		pF

Absolute maximum rating @25°C

Rating	Symbol	Value	Units
IEC 61000-4-2 (ESD) Contact		± 30	kV
ESD Voltage	Per Human Body Model	16	kV
	Per Machine Model	400	V
Peak Pulse Power ($t_p = 8/20\mu S$)	P_{pk}	100	W
Maximum Peak Pulse Current ($t_p = 8/20\mu S$)	I_{pp}	9.8	A
Lead Soldering Temperature	T_L	260 (10 sec)	$^\circ C$
Operating Temperature	T_J	-55 to +125	$^\circ C$
Storage Temperature	T_{STG}	-55 to +150	$^\circ C$

Typical Characteristics

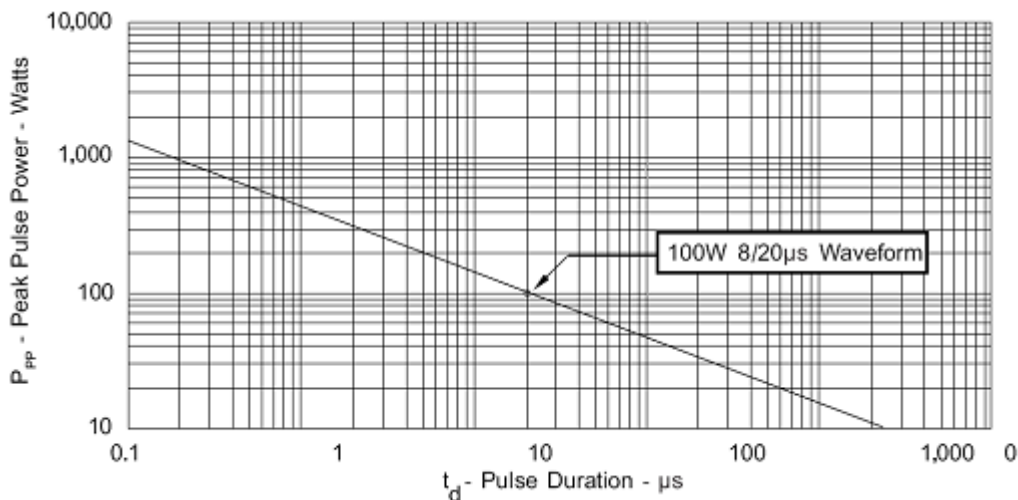


Figure1. Peak pulse power vs pulse time

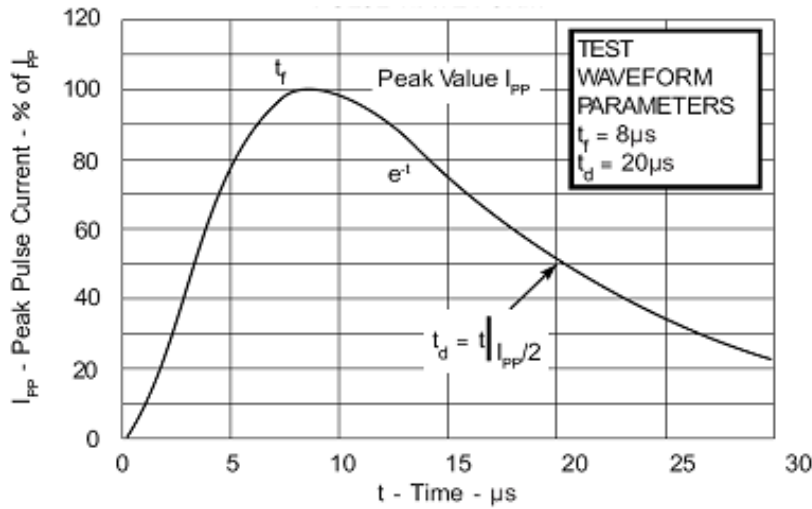
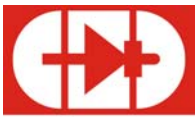


Figure2. Pulse wave form Power Derating Curve

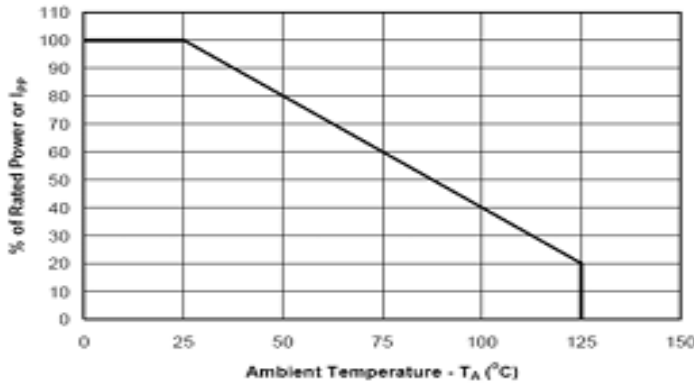


Figure3.Power derating curve

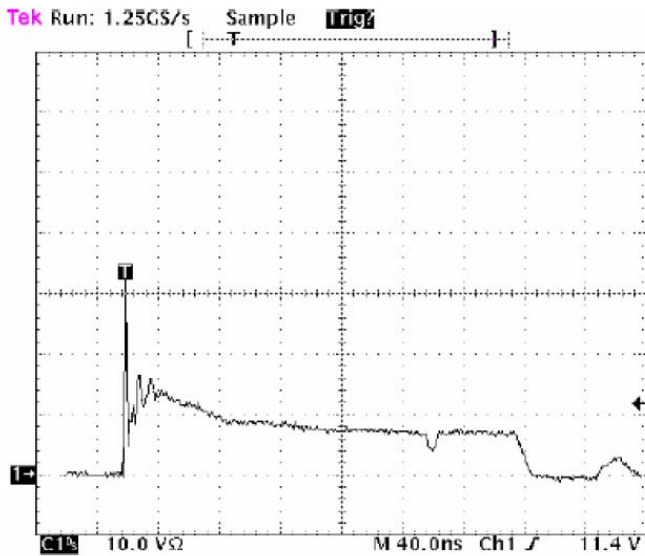


Figure 4. Positive 8kV contact per IEC 61000-4-2

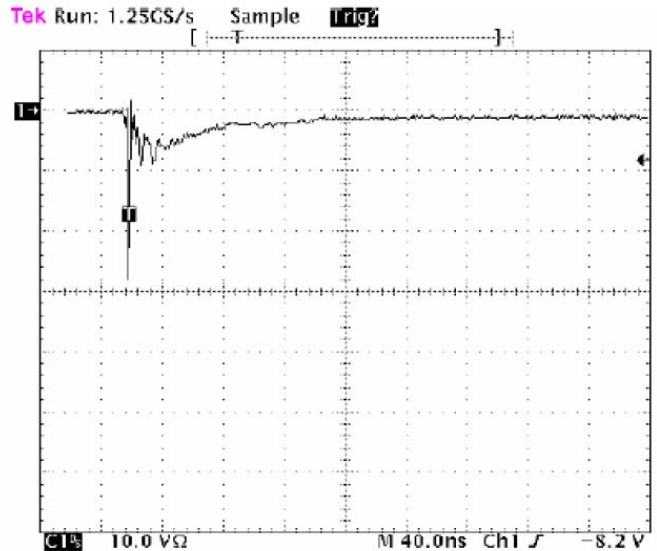
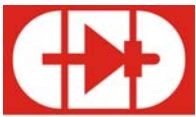
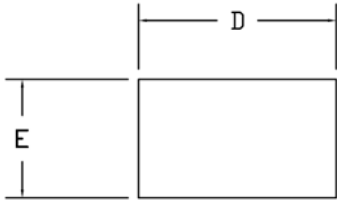


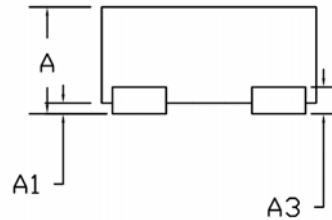
Fig 5. Negative 8kV contact per IEC 61000-4-2



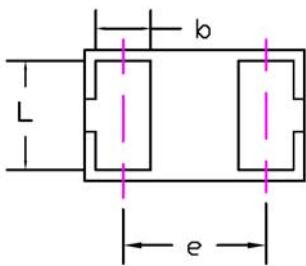
Product dimension and foot print



Top View

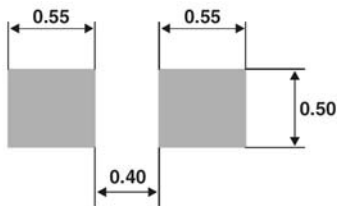


Side View



Bottom View

Common Dimensions (mm)			
PKG.	X1: Extreme thin		
Ref.	Min.	Nom.	Max
A	0.4	-	0.5
A1	0.00	-	0.05
A3	0.125 Ref.		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
B	0.20	0.25	0.30
L	0.45	0.50	0.55
e	0.65 BSC		



Foot Print

Revision History

Revision	Date	Changes
1.0	2008-7-3	-