

SESD3Z5CL
Transient Voltage Suppressors for ESD Protection

Revision:A

General Description

The SESD3Z5CL is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 75 Watts @ 8 x 20 μ s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model

Complies with the following standards
IEC61000-4-2

Level 4 15 kV (air discharge)

8 kV(contact discharge)

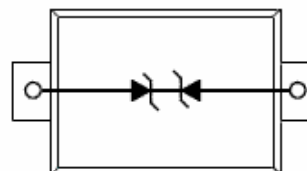
MIL STD 883E - Method 3015-7 Class 3

25 kV HBM (Human Body Model)

Functional diagram



SOD-323

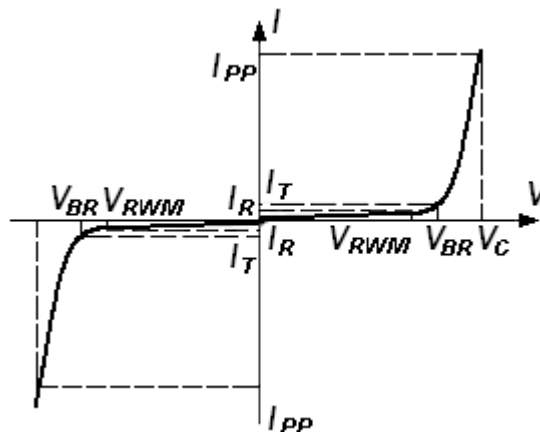


Absolute Ratings (T_{amb}=25°C)

| Symbol | Parameter | Value | Units |
|------------------|---|-------------|-------|
| P _{PK} | Peak Pulse Power (t _p = 8/20 μ s) | 75 | W |
| T _L | Maximum lead temperature for soldering during 10s | 260 | °C |
| T _{stg} | Storage Temperature Range | -55 to +155 | °C |
| T _{op} | Operating Temperature Range | -40 to +125 | °C |
| T _J | Maximum junction temperature | 150 | °C |

Electrical Parameter

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| I_T | Test Current |
| V_{BR} | Breakdown Voltage @ I_T |



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Part Numbers | V_{BR} | | | I_T | V_{RWM} | I_R | C |
|--------------|----------|------|------|-------|-----------|-------|--------------|
| | Min. | Typ. | Max. | | | | Typ. (Note1) |
| | V | V | V | | | | pF |
| SESD3Z5CL | 5.4 | 6.7 | 7.8 | 1 | 5.0 | 1 | 3 |

1. Capacitance is measured at $f=1\text{MHz}$, $V_R=0\text{V}$, $T_A=25^\circ\text{C}$.

Typical Characteristics

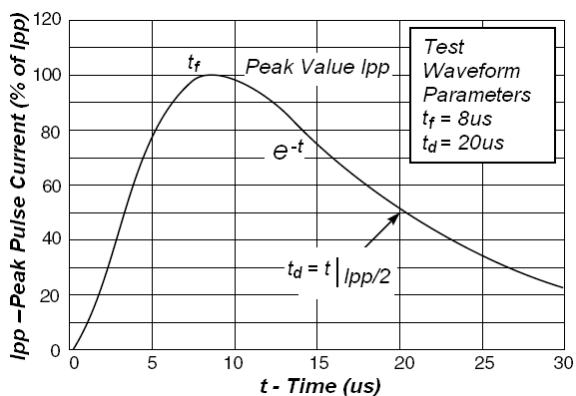
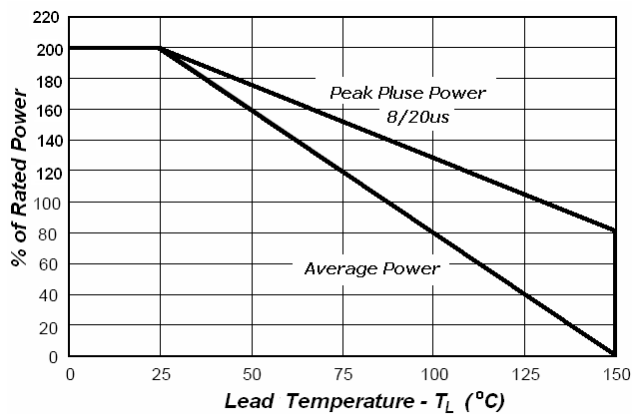


Fig1. Pulse Waveform



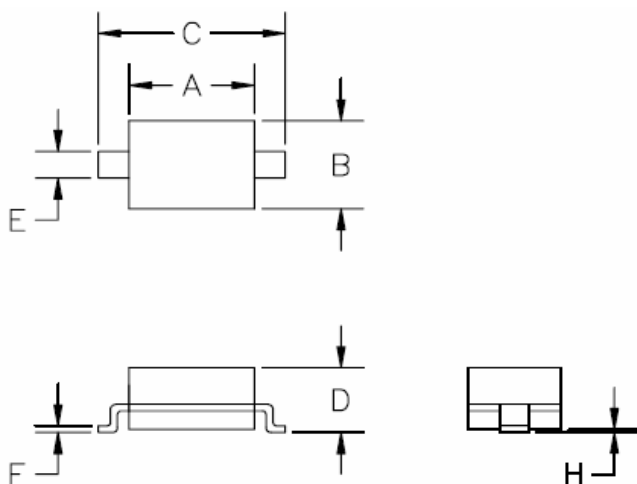
Application Note

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

Surface mount TVS offers the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal lines to ground. As the transient rises above the operating voltage of the device, the TVS becomes a low impedance path diverting the transient current to ground. The SESD3Z5CL is the ideal board level protection of ESD sensitive semiconductor components.

The tiny SOD-323 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening against ESD.

SOD-323 Mechanical Data



| Dim | Dimensions | | | |
|-----|------------|-------|------|------|
| | Inches | | Mil | |
| | Min | Max | Min | Max |
| A | 0.060 | 0.071 | 1.5 | 1.8 |
| B | 0.045 | 0.054 | 1.2 | 1.4 |
| C | 0.060 | 0.107 | 2.3 | 2.7 |
| D | - | 0.043 | - | 1.1 |
| E | 0.012 | 0.016 | 0.3 | 0.4 |
| F | 0.004 | 0.010 | 0.10 | 0.25 |
| H | - | 0.004 | - | 0.10 |

CONTROLLING DIMENSION: MILLIMETERS

The SINO-IC logo is a registered trademark of Shanghai Sino-IC Microelectronics Co., Ltd.

© 2005 SINO-IC – Printed in China – All rights reserved.

SHANGHAI SINO-IC MICROELECTRONICS CO., LTD

Add: Building 3, Room 3401-03, No.200 Zhangheng Road, ZhangJiang Hi-Tech Park, Pudong, Shanghai 201203, China

Phone: +86-21-33932402 33932403 33932405 33933508 33933608

Fax: +86-21-33932401

Email: webmaster@sino-ic.com

Website: <http://www.sino-ic.com>

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:

Click to view products by [SINO-IC](#) manufacturer:

Other Similar products are found below :

[NTE4902](#) [P4SMAJ15A](#) [P4SMAJ26A](#) [SMAJ400CA-TP](#) [TGL34-47CA](#) [ESDAULC45-1BF4](#) [SM1605E3/TR13](#) [SMF20A-TP](#) [P4SMAJ12A](#)
[CPDUR24V-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#) [MPLAD30KP45CAE3](#) [MMBZ27VCLQ-7-F](#) [MMAD1108/TR13](#) [MPLAD30KP24A](#)
[ACPDQC5V0R-HF](#) [DFLT170A-7](#) [NTE4900](#) [NTE4926](#) [NTE4938](#) [SMF22A-TP](#) [SMF12A-TP](#) [SLVU2.8-TP](#) [SMLJ6.5CA-TP](#) [SMAJ6.5CA-](#)
[TP](#) [MMAD1108E3/TR13](#) [D5V0M1U2LP3-7](#) [SMAJ400A-TP](#) [AOZ8811DT-03](#) [AOZ8831DI-05](#) [AOZ8831DT-03](#) [SMAJ188CA](#) [3SMC33CA](#)
[BK](#) [CPDQC3V3C-HF](#) [CPDQC12VE-HF](#) [MPLAD30KP170CA](#) [82357120100](#) [5.0SMLJ15CA-TP](#) [5KP18A-TP](#) [P6KE8.2A-TP](#)
[MPLAD30KP43CAE3](#) [SMAJ43A-TP](#) [D5V0F6U8LP33-7](#) [TVS5501V10MUT5G](#) [5.0SMLJ24CA-TP](#) [SMAJ110CA-TP](#) [MPLAD15KP75CAE3](#)
[MMAD1103e3/TR13](#) [DFLT40AQ-7](#)