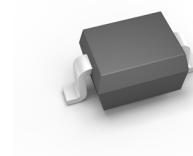


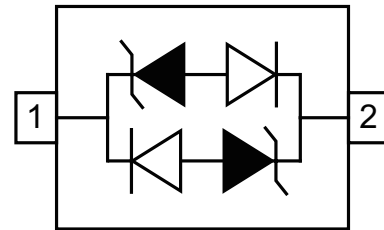
1. General description

The ESDALDxxBC series low capacitance transient voltage suppressor arrays, designed to protect applications such as portable electronics and SMART phones. This series is available in bidirectional configurations and is rated at 350 Watts for an 8/20 μ s waveshape. This series offers a low capacitance and low leakage current in a miniature SOD323 package.



2. Features and benefits

- Peak pulse power 350W @ 8/20us waveform
- IEC 61000-4-2 (ESD) \pm 30kV(air), \pm 30kV(contact)
- Protects one directional I/O line
- Low leakage current
- Low clamping voltage
- Meet MSL level1
- Halogen free and RoHS compliant



3. Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- USB Interface



4. Ordering information

| Type number | Package name | Orderable part number | Packing method | Small packing quantity | Package version | Package issue date |
|-------------|--------------|-----------------------|----------------|------------------------|-----------------|--------------------|
| ESDALDxxXX | SOD323 | ESDALDxxXXX | Tape and reel | 3000 | SOD323 | 13-Oct-2020 |
| ESDALD03BC | SOD323 | ESDALD03BCX | Tape and reel | 3000 | SOD323 | 13-Oct-2020 |

5. Absolute maximum ratings

In accordance with the Absolute Maximum Rating System (IEC 60134).

$T_j = 25^\circ\text{C}$ unless otherwise specified.

| Symbol | Parameter | Conditions | Values | Unit |
|--------------------------------|--|------------|----------------------|------------------|
| Absolute maximum rating | | | | |
| V_{ESD} | ESD per IEC 61000-4-2 (air) ESD per IEC 61000-4-2 (contact) | | \pm 30 \pm 30 | kV kV |
| T_{stg} | storage temperature range | | -55 to 150 | $^\circ\text{C}$ |
| T_j | operating temperature range | | -55 to 150 | $^\circ\text{C}$ |

6. Characteristics

$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified.

| Product type | Reverse Stand off Voltage V_R (V) | Min. Breakdown Voltage V_{BR} @ $I_T = 1\text{ mA}$ (V) | Max. Clamping Voltage V_C @ $I_{pp} = 1\text{ A}$ (V) | Max. Clamping Voltage V_C @ Max I_{pp} (V) | Max. Peak Pulse current I_{pp} (A) | Maximum Reverse Leakage I_R @ V_R (μA) | Typ. C_j (pF) @ 0 V, 1 MHz |
|--------------|---|---|---|--|--|---|---------------------------------------|
| ESDALD03BC | 3.3 | 4.5 | 8.5 | 20 | 20 | 1 | 0.8 |
| ESDALD05BC | 5.0 | 6.5 | 10 | 21 | 15 | 1 | 0.8 |
| ESDALD08BC | 8.0 | 8.5 | 12 | 25 | 15 | 1 | 0.8 |
| ESDALD12BC | 12 | 13.3 | 19 | 35 | 10 | 1 | 0.8 |
| ESDALD15BC | 15 | 16.5 | 24 | 45 | 8 | 1 | 0.8 |
| ESDALD24BC | 24 | 26 | 34 | 55 | 6 | 1 | 0.8 |
| ESDALD36BC | 36 | 38 | 55 | 70 | 3 | 1 | 0.8 |

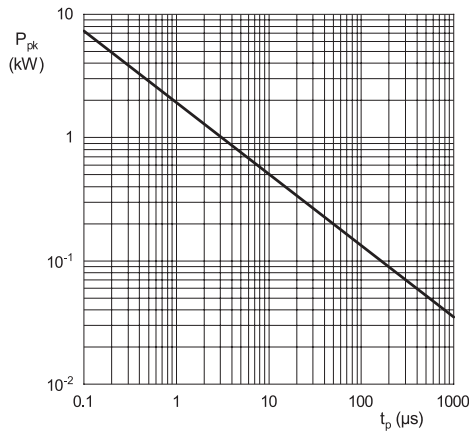


Fig. 1. Pulse rating curve

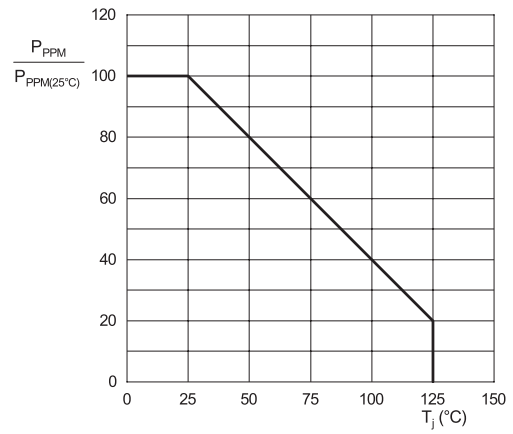


Fig. 2. Peak pulse power derating curve

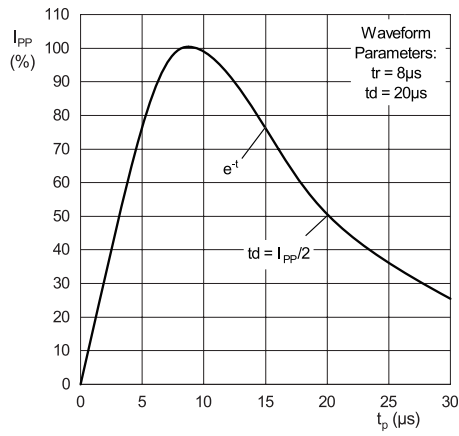


Fig. 3. Pulse waveform

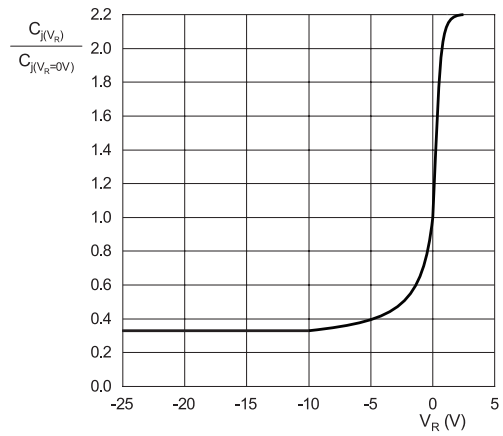
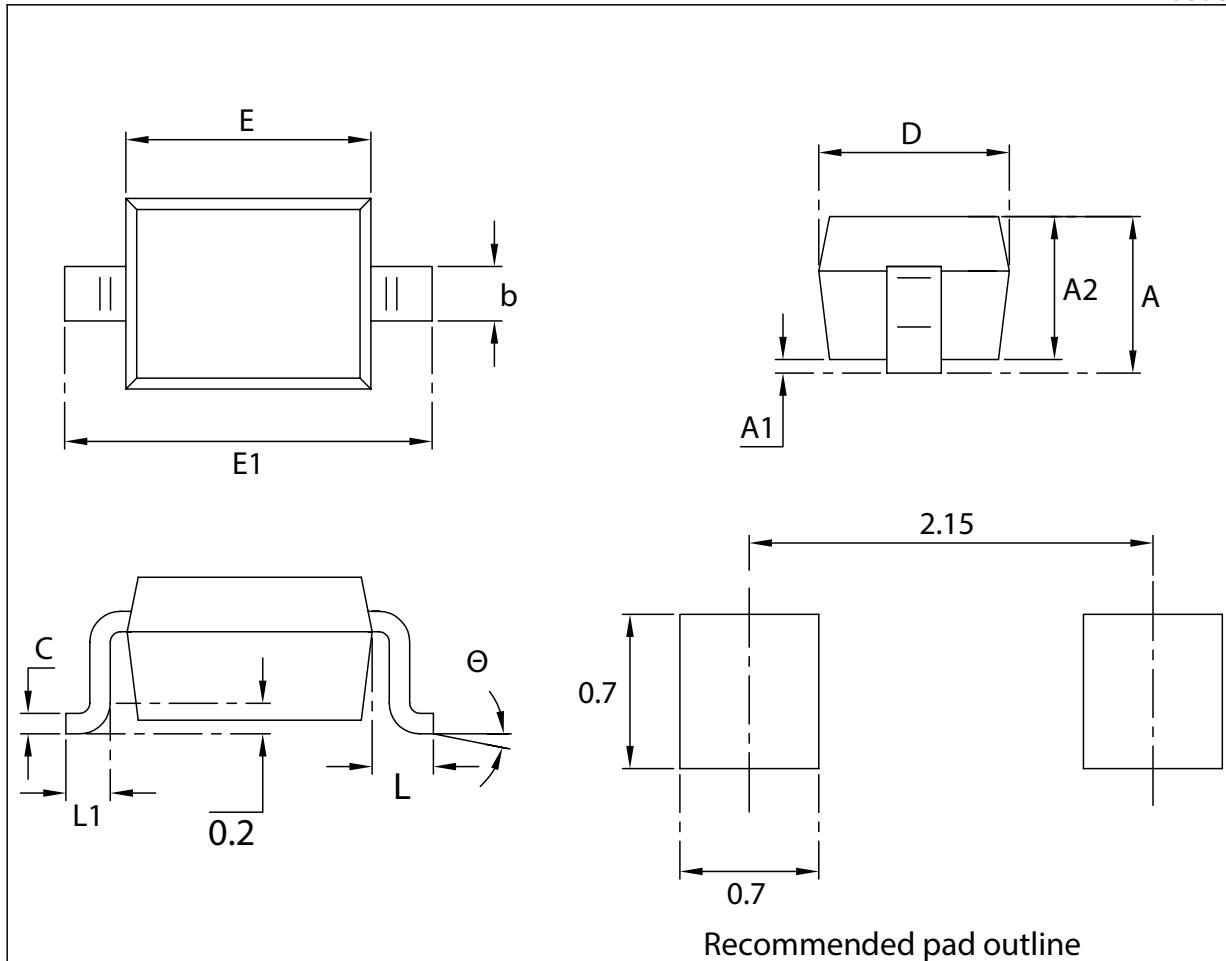


Fig. 4. Capacitance vs reverse voltage

7. Package outline

SOD323



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | | 1.000 | | 0.039 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.800 | 0.900 | 0.031 | 0.036 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.200 | 1.400 | 0.047 | 0.055 |
| E | 1.600 | 1.800 | 0.063 | 0.071 |
| E1 | 2.500 | 2.700 | 0.100 | 0.108 |
| L | 0.475REF | | 0.019REF | |
| L1 | 0.250 | 0.400 | 0.010 | 0.016 |
| theta | 0° | 8° | 0° | 8° |

Note:

1. Controlling dimension : in millimeters.
2. General tolerance: +/-0.05mm.
3. The pad layout is for reference purposes only.

8. Legal information

Data sheet status

| Document status [1][2] | Product status [3] | Definition |
|--------------------------------|--------------------|---|
| Objective [short] data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary [short] data sheet | Qualification | This document contains data from the preliminary specification. |
| Product [short] data sheet | Production | This document contains the product specification. |

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
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