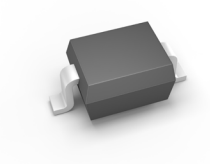
ESDALDxxBC series

ESD Protection Diodes Array

Rev.01 - 09 March 2021 Product data sheet

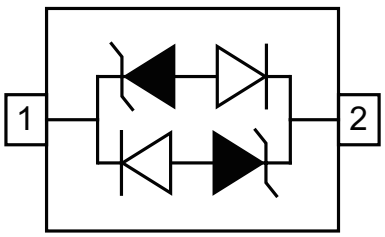
1. General description

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 8/20μs 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) ±30kV(air), ±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 °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)		±30 ±30	kV kV
T_{stg}	storage temperature range		-55 to 150	°C
T_j	operating temperature range		-55 to 150	°C

6. Characteristics

T_j = 25 °C unless otherwise specified.

Product type	Reverse Stand off Voltage V_R (V)	Min. Breakdown Voltage V_{BR} @ I_T = 1 mA (V)	Max. Clamping Voltage V_C @ I_{pp} = 1 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

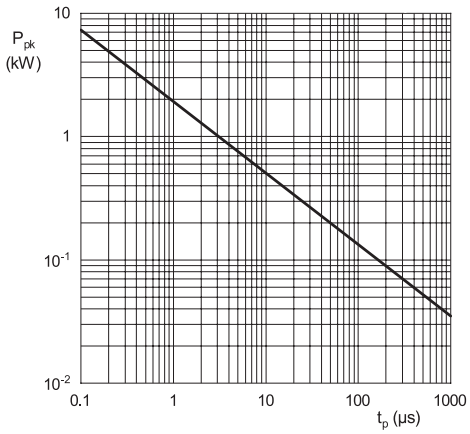


Fig. 1. Pulse rating curve

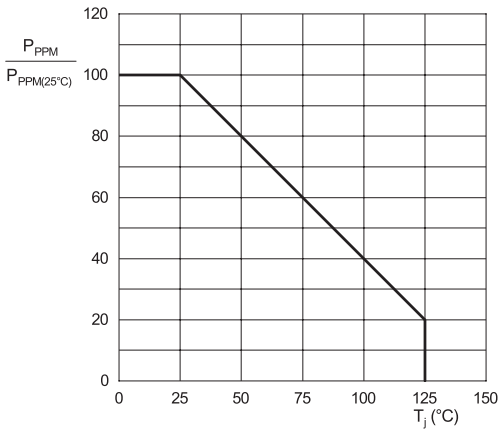


Fig. 2. Peak pulse power derating curve

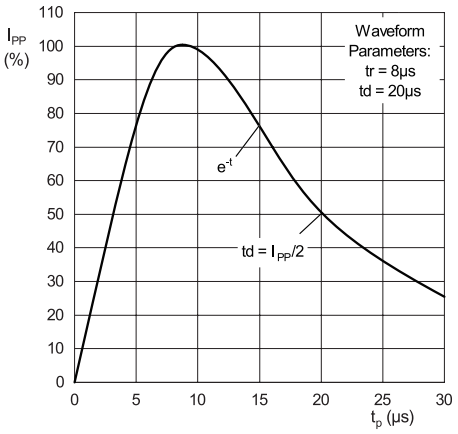


Fig. 3. Pulse waveform

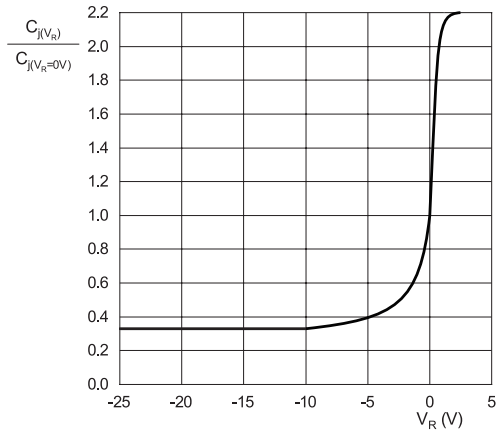
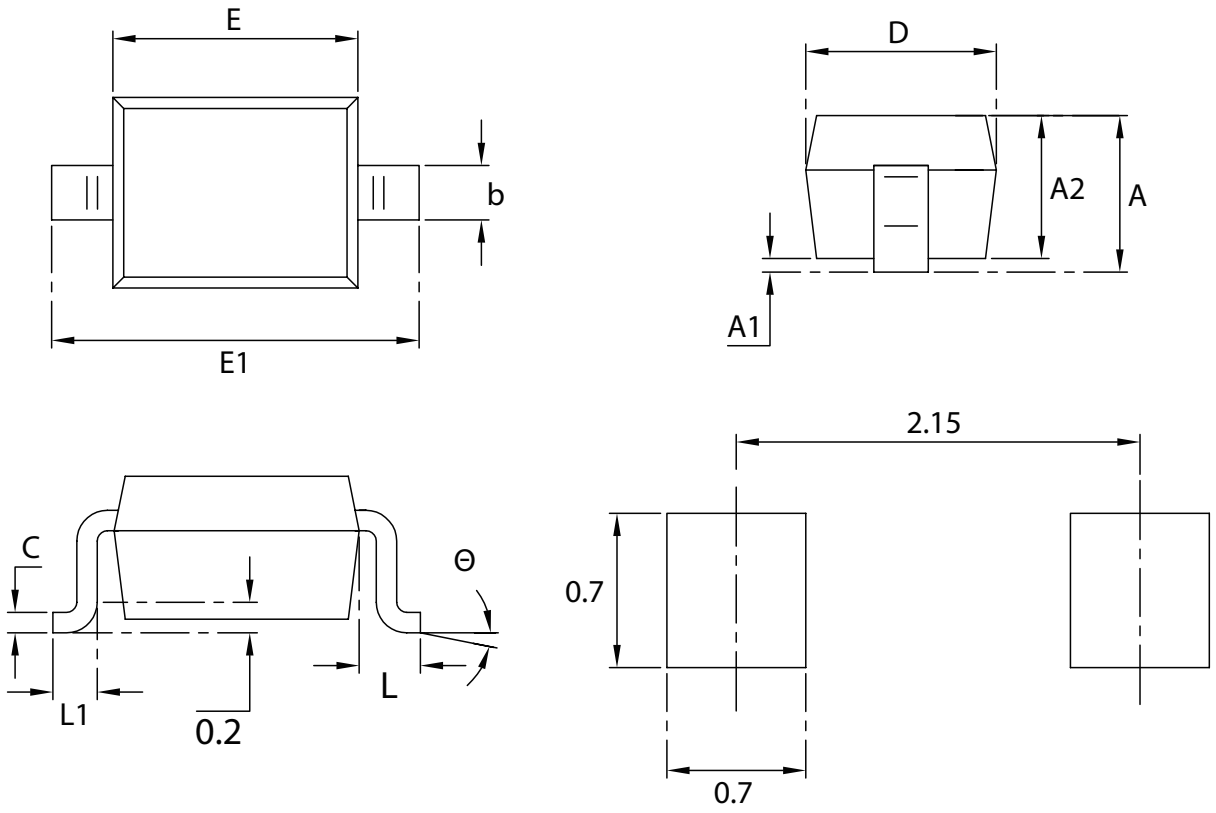


Fig. 4. Capacitance vs reverse voltage

7. Package outline

SOD323



Recommended pad outline

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
Θ	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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