EVVOSEMI®
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Product Specification

Domestic Part Number	ESD3V3B03-323
Overseas Part Number	ESD3V3B03-323
Equivalent Part Number	ESD3V3B03-323

1-Line Low Capacitance Bi-directional TVS Diode

Features

* 100W peak pulse power (8/20μs)
* Ultra low capacitance: 0.3 pF typical
* Ultra low leakage: nA leel
* Low operating : 3.3V
* Low clamping voltage
* Protects one power line or data line
* Complies with following standards:
* – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±20kV
  Contact discharge: ±15kV
* – IEC61000-4-4 (EFT) 40A (5/50ns)
* RoHS Compliant

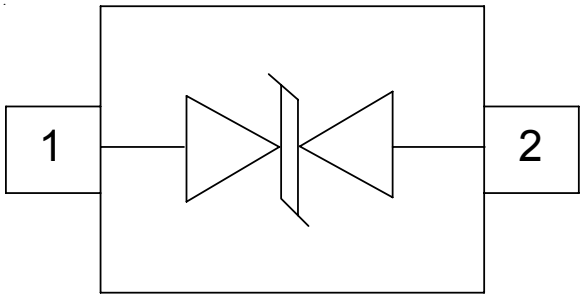
Applications

* USB Ports
* Smart Phones
* Wireless Systems
* Ethernet 10/100/1000 Base T

Mechanical Characteristics

* Package: SOD-323
* Lead Finish: Matte Tin
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Terminal Connections: See Diagram Below

Dimensions and Pin Configuration



Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	100	W
Peak Pulse Current (8/20μs)	IPP	4	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±20 ±15	kV
Operating Temperature Range	TJ	−40 to +85	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA	4		6	V
Reverse Leakage Current	I_R	V_{RWM} = 3.3 V			0.2	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse)			5	V
Clamping Voltage	V_C	I_{PP} = 4A (8 x 20□s pulse)			23	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		0.3		pF

Typical Performance Characteristics (TA=25°C unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

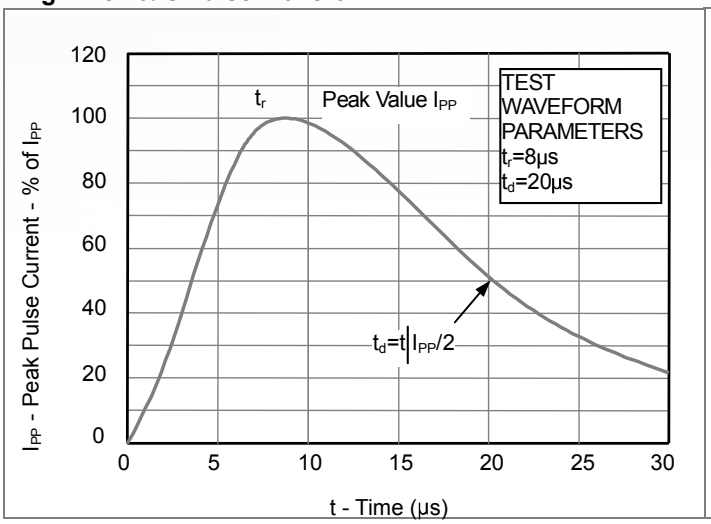


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

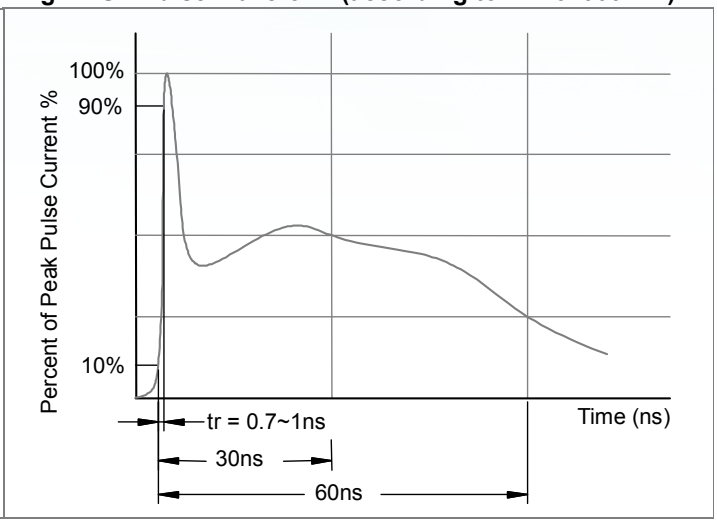
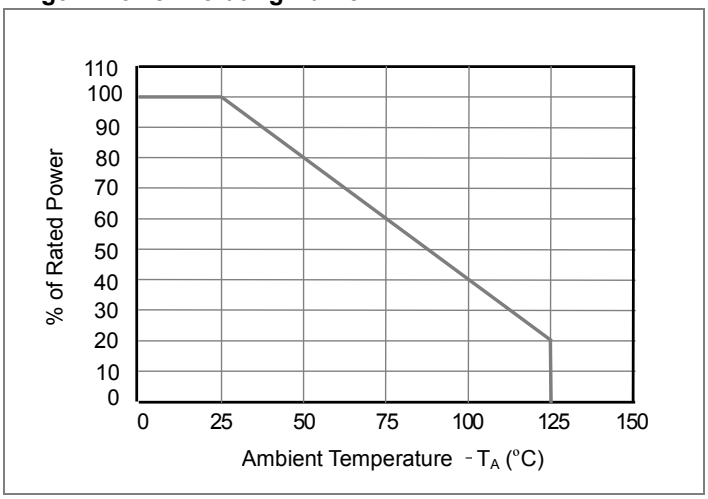
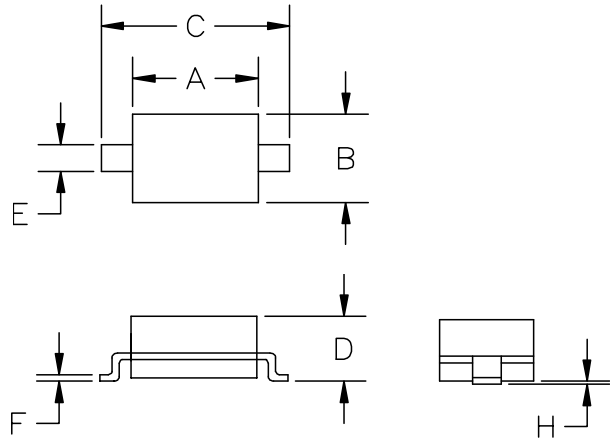


Fig3. Power Derating Curve

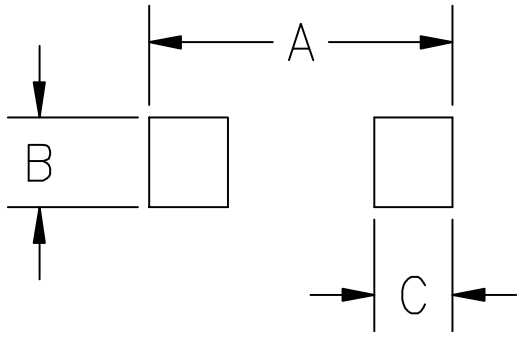


SOD-323 Package Outline Drawing



SYM	DIMENSI			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

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