Bi-directional ESD Protection Diode

1 General Description

1.1 Features

- 300Watts peak pulse power (tp = 8/20μs)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 17A (8/20μs)

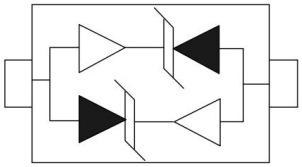
Stand-off Voltage
3.3V
Peak Pulse Power
300W

1.2 Applications

- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

1.3 Mechanical Data

- SOD323 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant


SOD-323

2 Maximum Ratings(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Current(8/20μs)	I_{PP}	17	A
ESD Voltage IEC61000-4-2 Air	V_{ESD}	30	KV
ESD Voltage IEC61000-4-2 Contact		30	KV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to +150	℃
Storage Temperature	T_{STG}	-55 to +150	℃
Peak Pulse Power(8/20μs)	P_{PP}	300	W

3 Electrical Characteristics(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	Conditions	MIN.	TYP.	MAX.	UNIT
Reverse Working Peak Voltage	V_{RWM}	-	-	-	3.3	V
Breakdown Voltage	V_{BR}	I_T=1mA	4.2	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V	-	-	1	μA
Clamping Voltage	V_C	Ipp=17A(8/20μs)	-	18	-	V
Junction Capacitance	C_j	V_R=0V,f=1MHZ	-	1.1	-	pF

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

Figure 1: Peak Pulse Power vs. Pulse Time

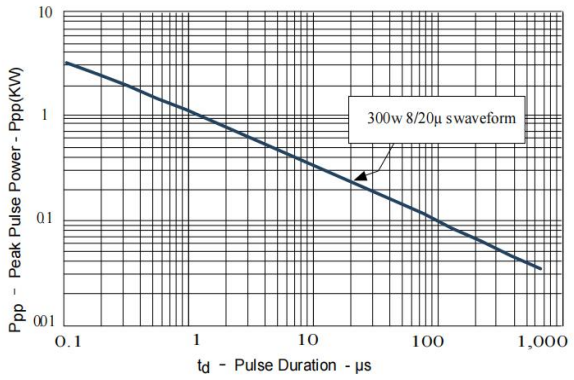


Figure 2: Power Derating Curve

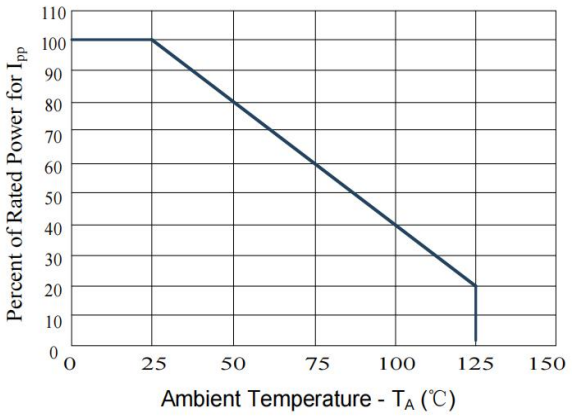


Fig.3 Pulse Waveform-8/20μs

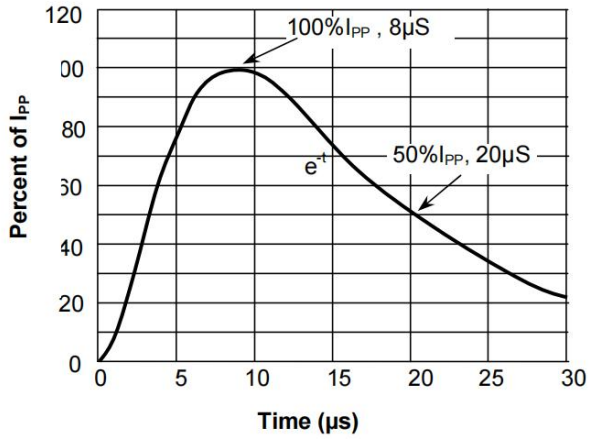


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

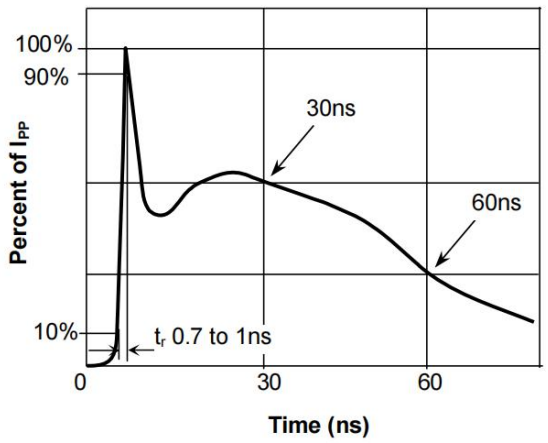


Fig.5 IEC61000-4-2 +8kV Contact Discharge

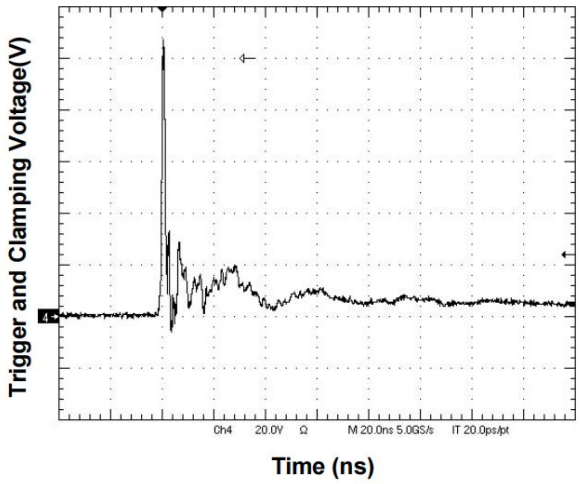
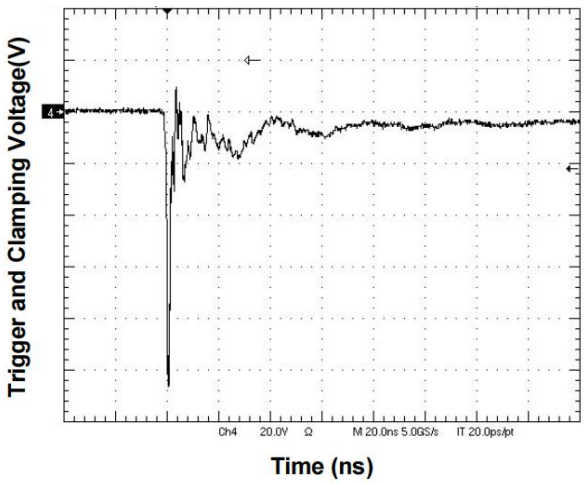
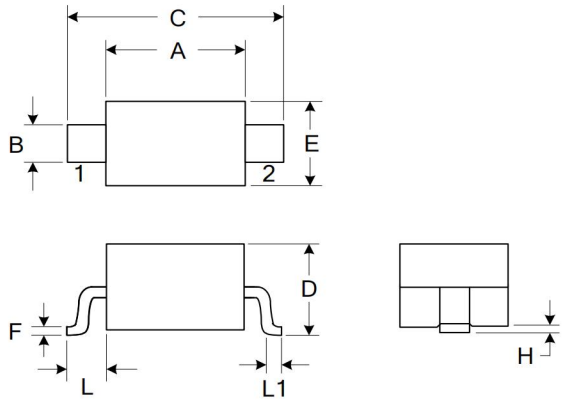


Fig.6 IEC61000-4-2 -8kV Contact Discharge



5 Package Outline Dimensions

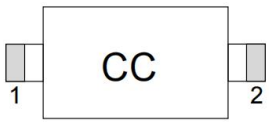


Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D	-	1.000	-	0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0	0.100	0	0.004

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	PACKAGING	REEL (pcs)
SOD-323	Approximate 0.03	Reel	3000

7 Marking



Pin Style: 1. Cathode 2. Anode

Disclaimer

1. All information contained in this document is for reference only. Shandong Baocheng Electronics Co.,Ltd reserves the right to revise this document, product specifications and related data at any time without prior notice. Customers shall obtain and confirm the latest product documents and specifications before purchasing or using the products.

2. Under no circumstances shall the Company be liable for any failure or damage caused by the operation of semiconductor devices beyond the maximum rated values.

3. Shandong Baocheng Electronics Co.,Ltd does not warrant the suitability of its products for any specific application and assumes no responsibility for customer's complete machine design or application debugging. Without written approval, products are prohibited from being used as key components of life support equipment. The Company shall not be liable for any consequences arising from unauthorized use.

4. No intellectual property license of Shandong Baocheng Electronics Co.,Ltd is granted, explicitly or implicitly, through this document.