



■ **Features**

- Bi-directional ESD protection of one lines
- 450Watts peak pulse power (tp = 8/20μs)
- Working voltage: 5V
- Low clamping voltage
- Low leakage current
- Low Capacitance: 1.0 pF Typical
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 22A (8/20μs)


■ **Applications**

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface

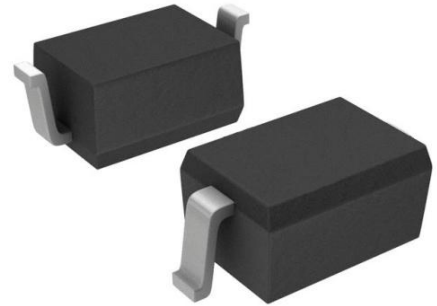
■ **Mechanical Data**

- Package:SOD-323
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

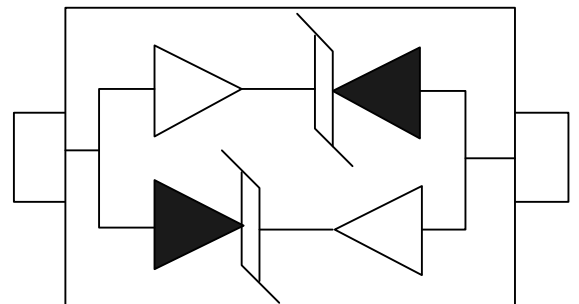
■ **Ordering Information**

Part Number	Package	Marking	Packing	Reel Size
BV05C	SOD-323	 5BL	3000 Tape & Reel	7 inches

SOD-323



■ **Schematic & PIN Configuration**



■ Absolute Maximum Rating($T_A = 25^\circ\text{C}$ unless otherwise noted)

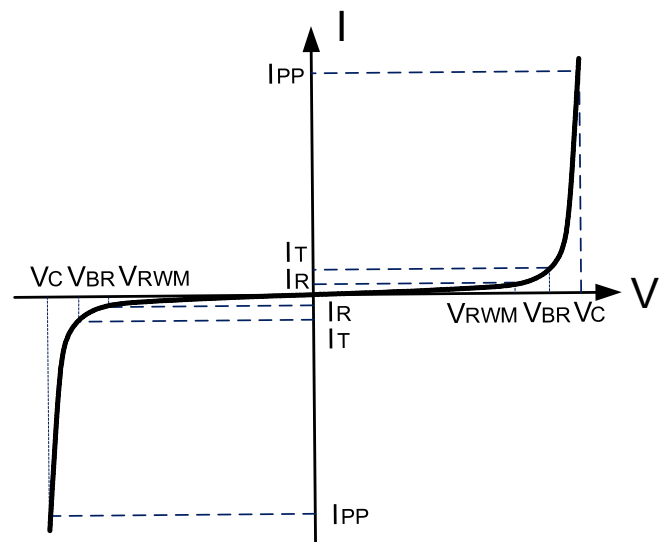
Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	450	Watts
Peak Pulse Current ($t_p = 8/20\mu\text{s}$) (note1)	I_{pp}	22	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^\circ\text{C}$
Junction Temperature	T_J	-55 to + 150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to + 150	$^\circ\text{C}$

■ Electrical Characteristics($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}, T = 25^\circ\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 22\text{A}, t_p = 8/20\mu\text{s}$			20	V
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}$		1.0	1.5	pF

■ Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note: 8/20 μs pulse waveform.



■ Typical Characteristic($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 1: Peak Pulse Power vs. Pulse Time

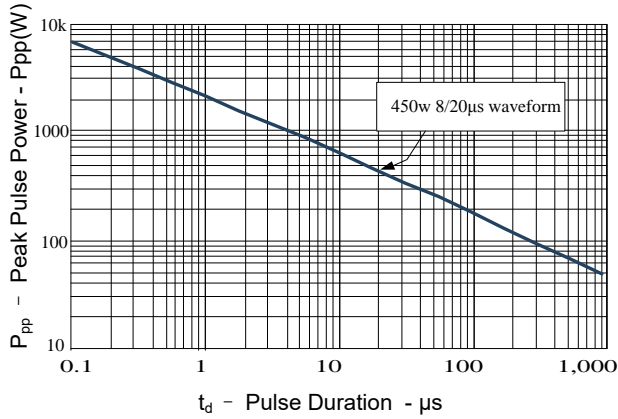


Figure 2: Power Derating Curve

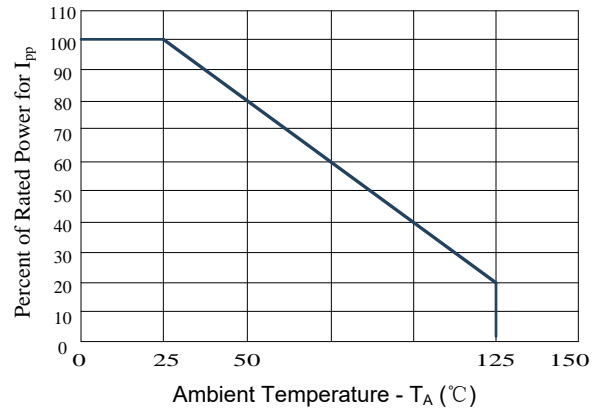


Figure3: Pulse Waveform

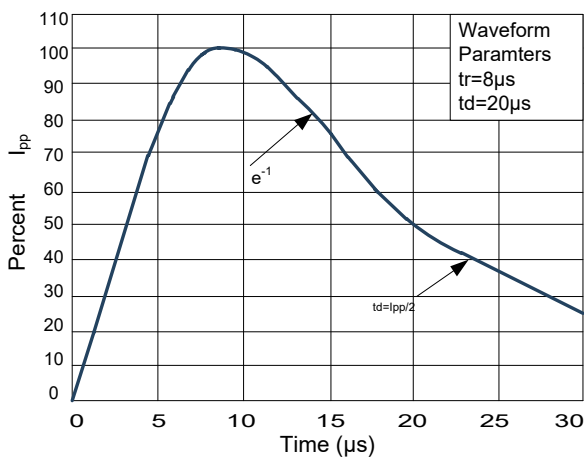
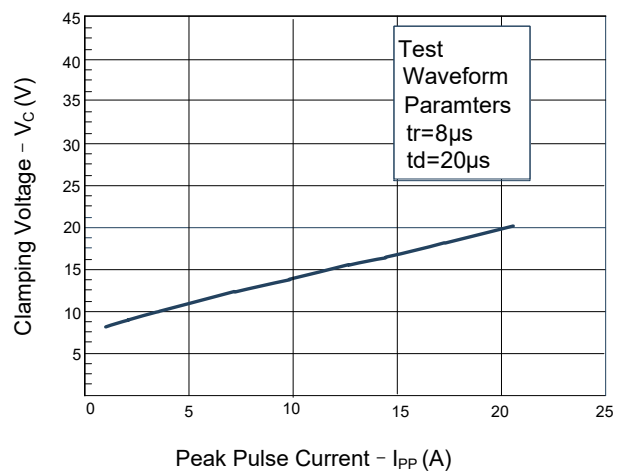
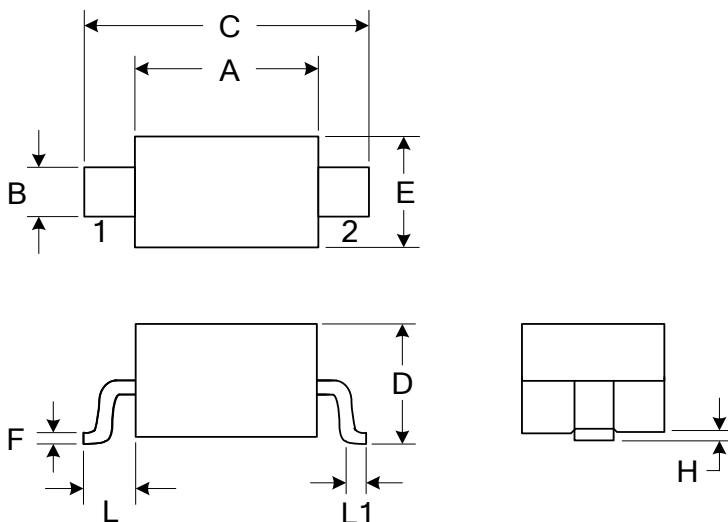


Figure 4: Clamping Voltage vs.Ipp



■ Outline Drawing – SOD-323



DIMENSIONS				
SYMBOL	MILLIMETER		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	0.475 REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

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