BORN SEMICONDUCTOR

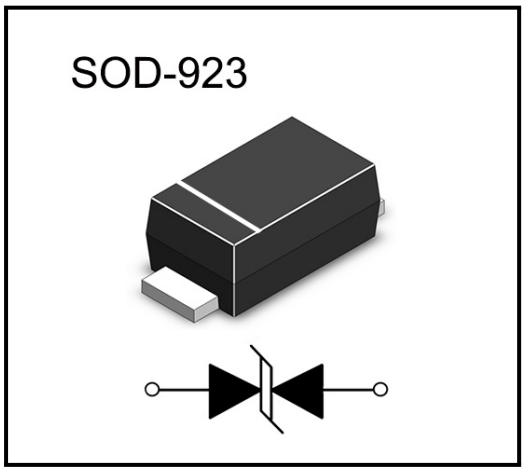
BSD9C051V

ESD Protection Diode

Features

- 80Watts 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) 8A (8/20μs)

Package



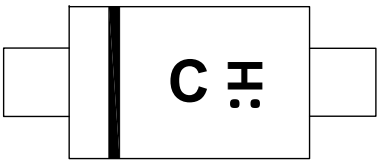
Applications

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

Mechanical Characteristics

- SOD-923 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
BSD9C051V	SOD-923	8k	Tape and reel

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Specifications are subject to change without notice.
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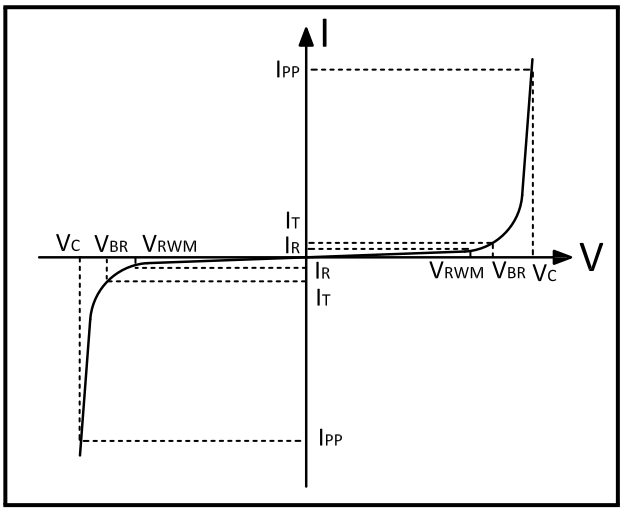
Revision: 2022-Jan-1-A

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ESD Protection Diode

Electrical Parameters (T_A = 25°C unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note:8/20us pulse Waveform.

Absolute Maximum Rating

Rating	Symber	Value	Units
Peak Pulse Power (tp =8/20μs)	P_{PP}	80	Watts
Peak Pulse Current (tp =8/20μs)	I_{PP}	8	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)	°C
Junction Temperature	T_J	-55 to + 150	°C
Storage Temperature	T_{stg}	-55 to + 150	°C

Electrical Characteristics

Parameter	Symber	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}	–	–	–	5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	5.6	–	9.0	V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25°C	–	–	0.1	uA
Peak Pulse Current	I_{PP}	tp =8/20μs	–	–	8.0	A
Clamping Voltage	V_C	I_{PP}=8A, tp =8/20us	–	–	10	V
Junction Capacitance	C_j	V_R=0V,f=1MHZ	–	15	18	pF

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ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

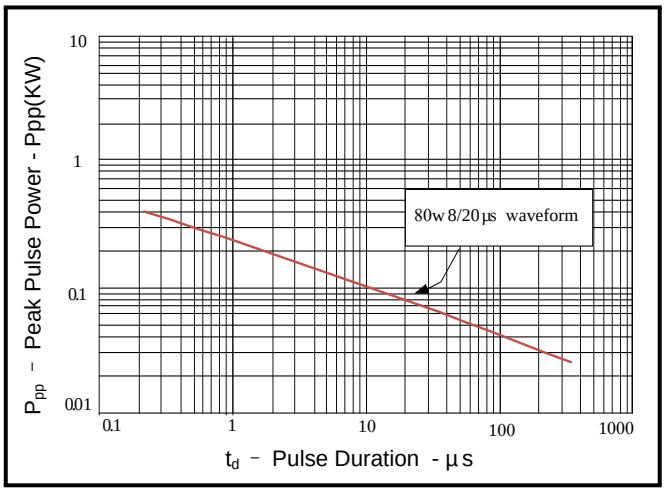


Figure 2: Power Derating Curve

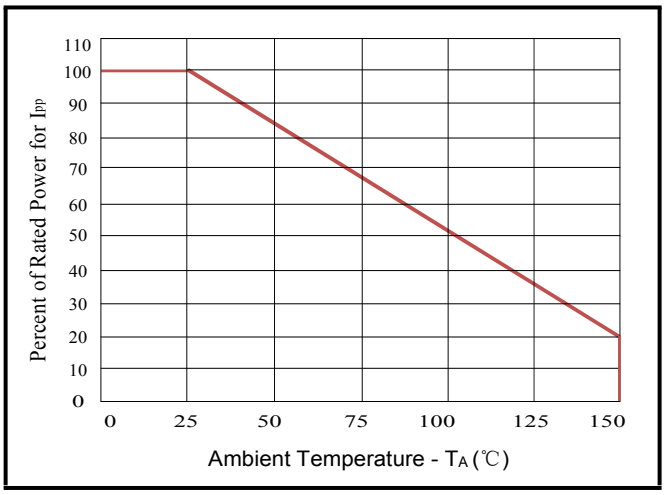


Figure 3: Pulse Waveform

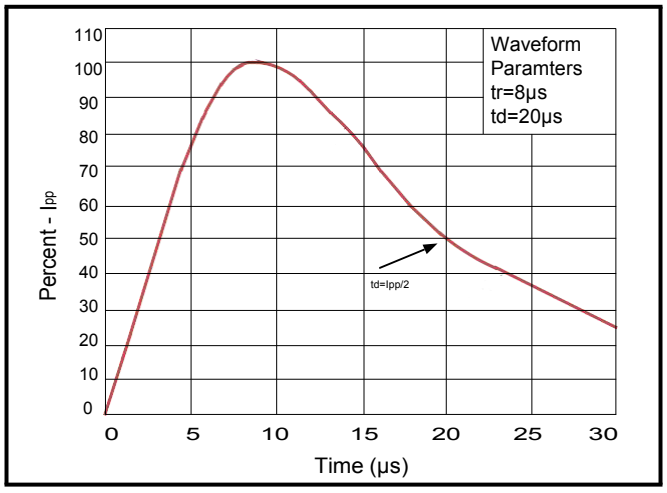
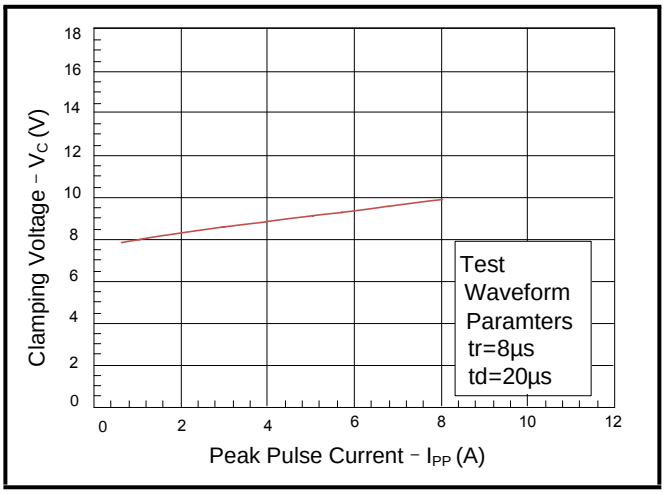


Figure 4: Clamping Voltage vs. I_{PP}



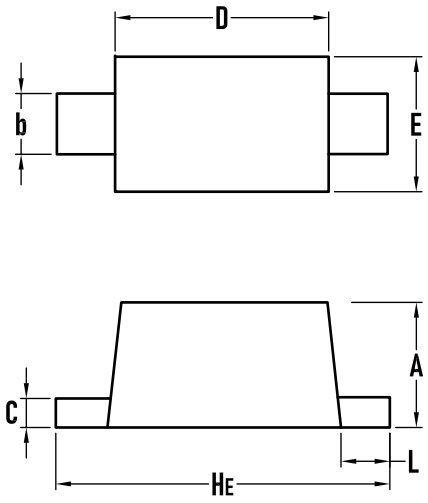
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ESD Protection Diode

Outline Drawing - SOD-923



SYMBOL	MILLIMETER		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.39	0.45	0.015	0.018
b	0.15	0.30	0.006	0.012
C	0.06	0.20	0.002	0.008
D	0.70	0.90	0.028	0.035
E	0.55	0.65	0.026	0.028
HE	0.90	1.10	0.035	0.043
L	0.05	0.15	0.002	0.006

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