

1-Line Low Capacitance Bi-directional TVS Diode

Features

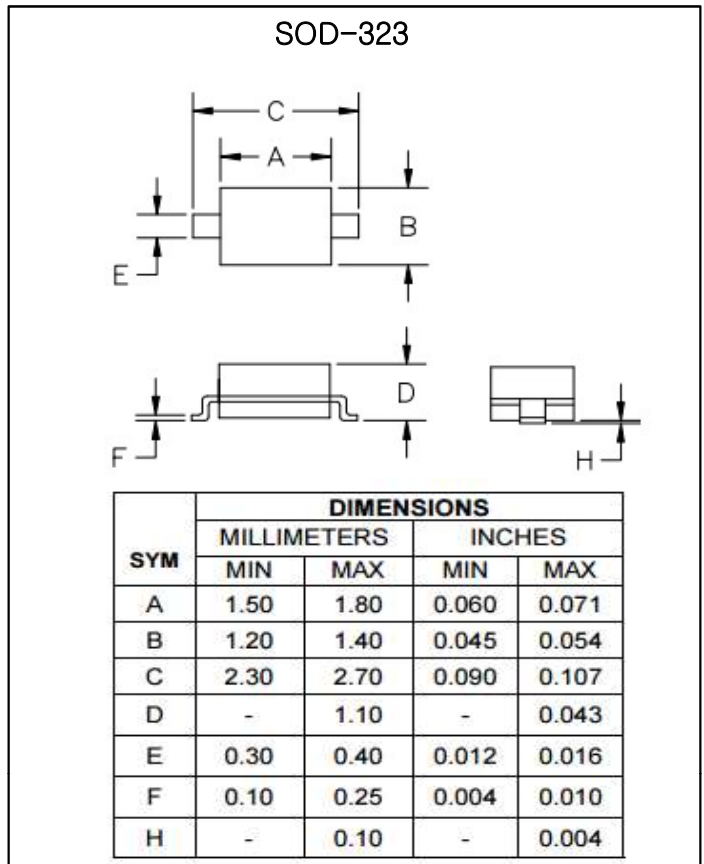
- 450W peak pulse power (8/20us)
- Ultra low capacitance : 2pF typical
- Ultra low leakage : nA level
- Low operating voltage : 5V
- Low clamping voltage
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : $\pm 30\text{kV}$, Contact discharge : $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 18A (8/20us)
- RoHS Compliant

Mechanical Data

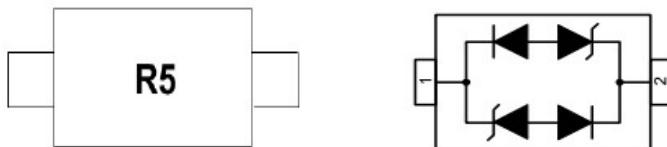
- Package : SOD-323
- Case Material : "Green" Molding Compound.
- Lead Finish : Sn
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below
- Marking Information : See Below

Applications

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



Marking and Circuit



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	P _{pk}	450	W
Peak Pulse Current (8/20us)	I _{pp}	18	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Junction Temperature Range	T _J	-40 to +85	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Working Voltage	V _{RWM}	-	-	5.0	V	
Breakdown Voltage	V _{BR}	6.0	7.0	-	V	I _T = 1mA
Reverse Leakage Current	I _R	-	-	0.5	uA	V _{RWM} = 5V
Clamping Voltage	V _C	-	-	12	V	I _{pp} = 1A (8×20us pulse)
Clamping Voltage	V _C	-	-	25	V	I _{pp} = 18A (8×20us pulse)
Junction Capacitance	C _J	-	2.0	3.0	pF	f = 1MHz, V _R = 0V



Ratings and Characteristics Curves ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1 Power Derating Curve

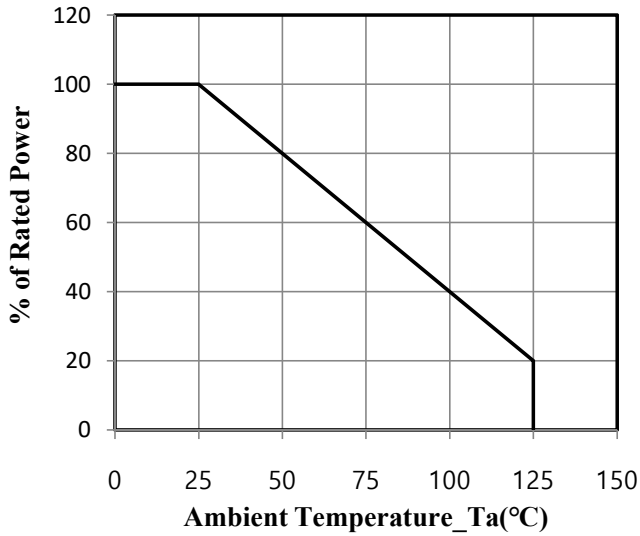


Fig.2 Peak Pulse Power vs. Pulse Time

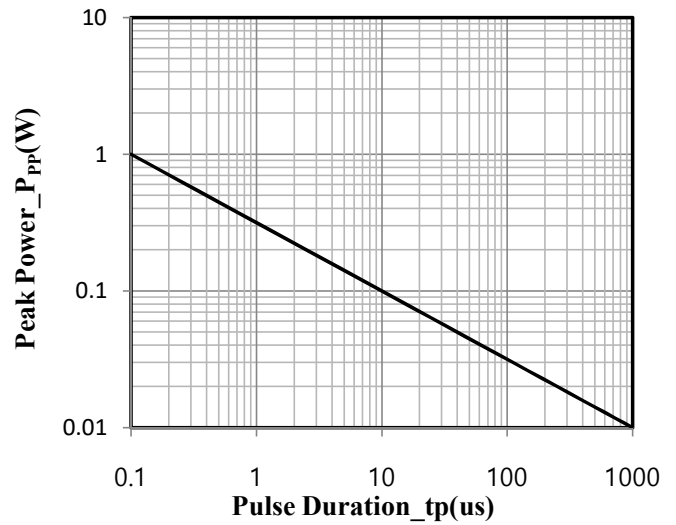


Fig.3 Clamping Voltage vs. Peak Pulse Current ($t_p=8/20\mu\text{s}$)

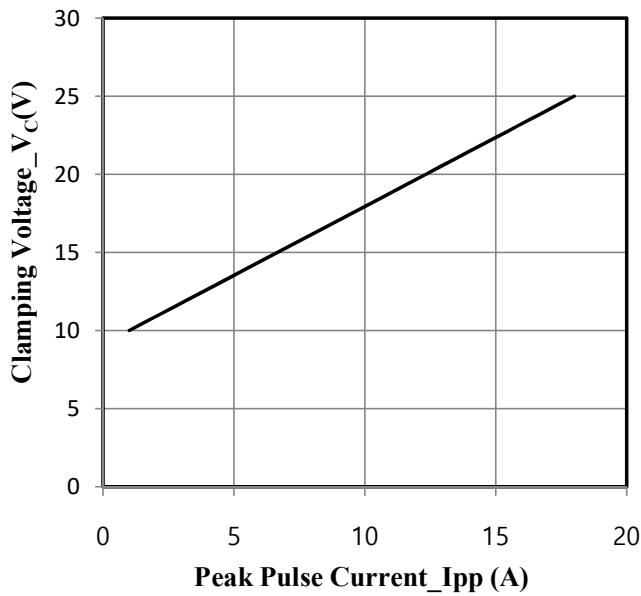


Fig.4 Junction Capacitance vs. Reverse Voltage

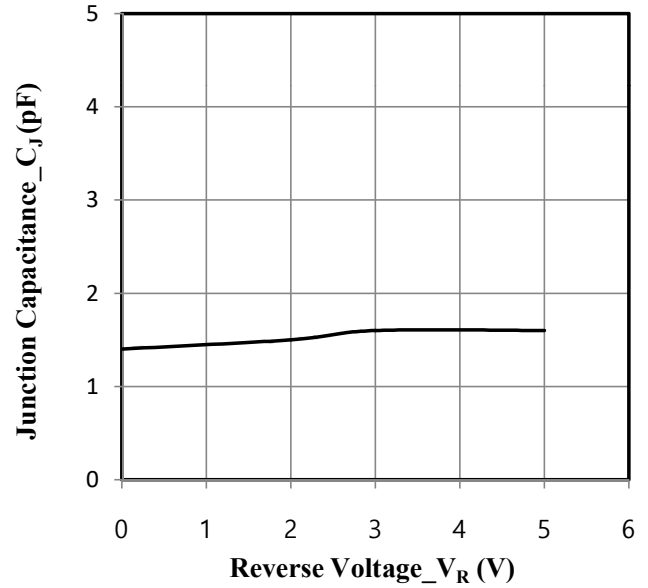


Fig.5 8 × 20us Pulse Waveform

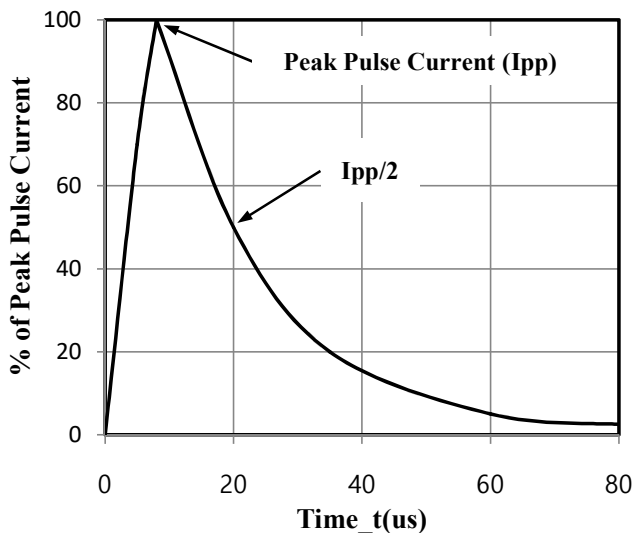


Fig. 6 ESD Clamping Voltage 8kV Contact per IEC61000-4-2

