



1-Line Low Capacitance Bi-directional TVS Diode

Features

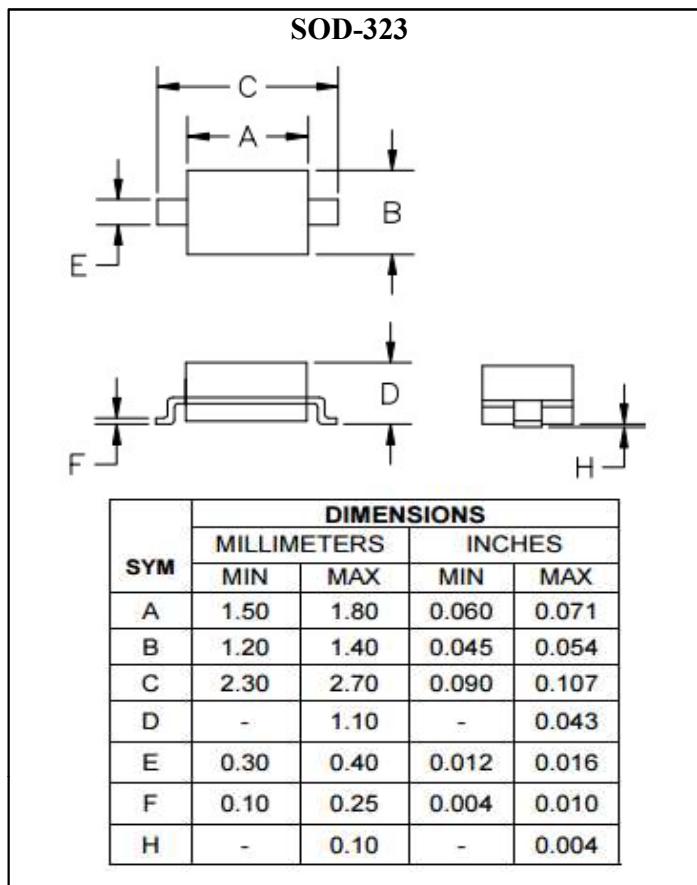
- 240W peak pulse power (8/20us)
- Ultra low capacitance : 2.0 pF typical
- Ultra low leakage : nA level
- Low operating voltage : 3.3V
- Low clamping voltage
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : $\pm 30\text{kV}$, Contact discharge : $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 16A (8/20us)
- RoHS Compliant

Mechanical Data

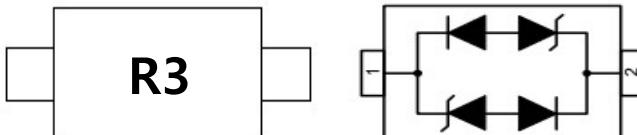
- Package : SOD-323
- Case Material : "Green" Molding Compound.
- Lead Finish : Matte Tin
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below
- Marking Information : See Below

Applications

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



Marking and Circuit Schematic



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	Ppk	240	W
Peak Pulse Current (8/20us)	Ipp	16	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}	-	-	3.3	V	
Breakdown Voltage	V _{BR}	3.5	-	-	V	I _T = 2uA
Reverse Leakage Current	I _R	-	-	0.5	uA	V _{RWM} = 3.3V
Clamping Voltage	V _C	-	-	5	V	I _{pp} =1A(8×20us pulse)
Clamping Voltage	V _C	-	-	15	V	I _{pp} =16A(8×20us pulse)
Junction Capacitance	C _J	-	2.0	-	pF	f=1MHz, V _R =0V



Ratings and Characteristics Curves (Ta=25°C unless otherwise noted)

Fig.1 Power Derating Curve

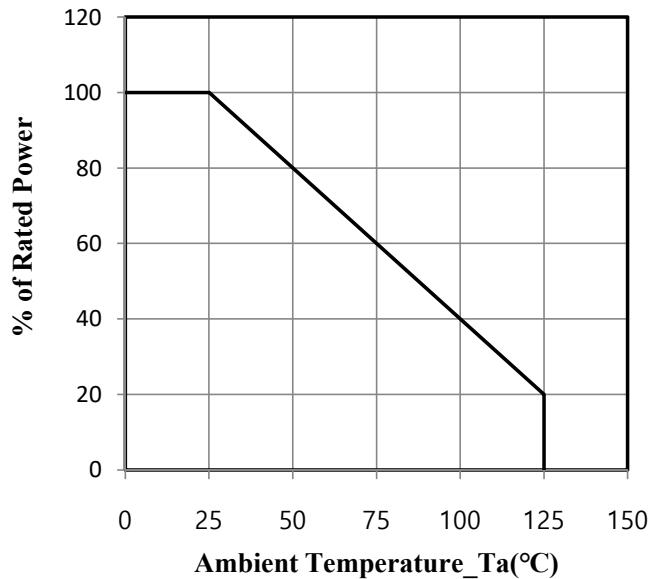


Fig.2 Peak Pulse Power vs. Pulse Time

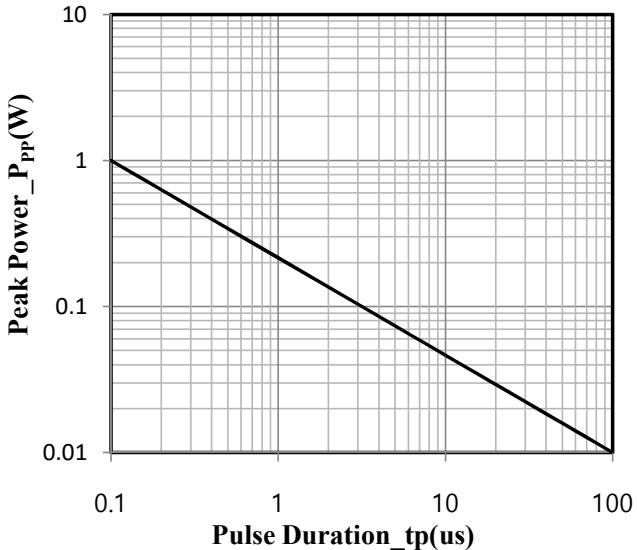


Fig.3 Clamping Voltage vs. Peak Pulse Current ($t_p=8/20\mu s$)

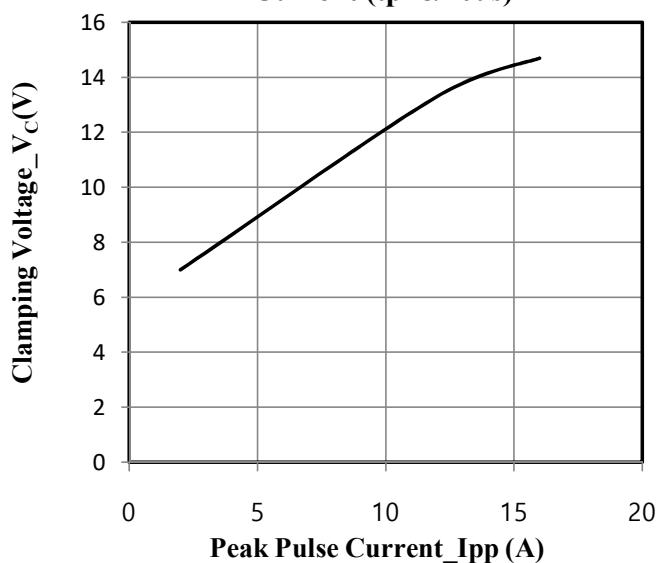


Fig.4 Junction Capacitance vs. Reverse Voltage

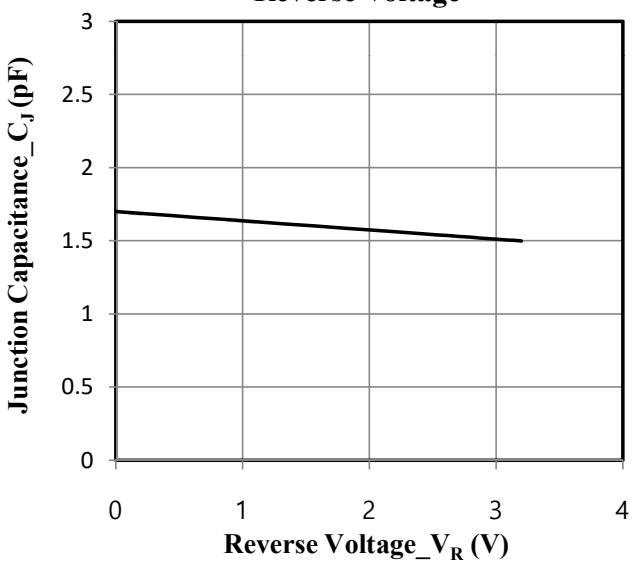


Fig.5 8 × 20μs Pulse Waveform

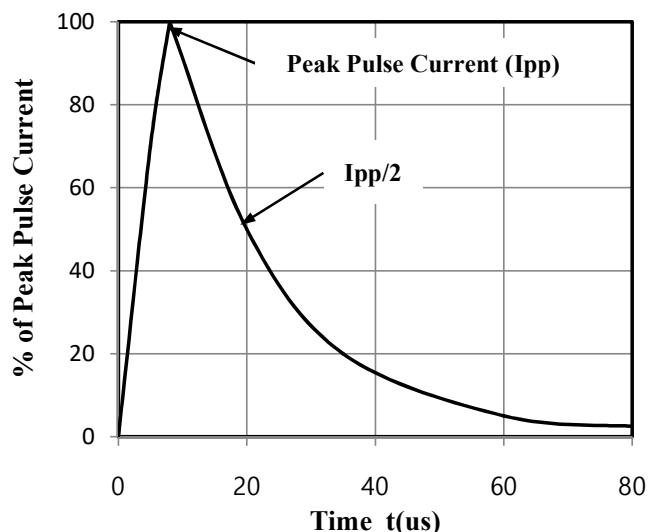


Fig. 6 ESD Clamping Voltage 8kV Contact per IEC61000-4-2

