

1-Line Bi-directional 3.3V TVS Diode

Features

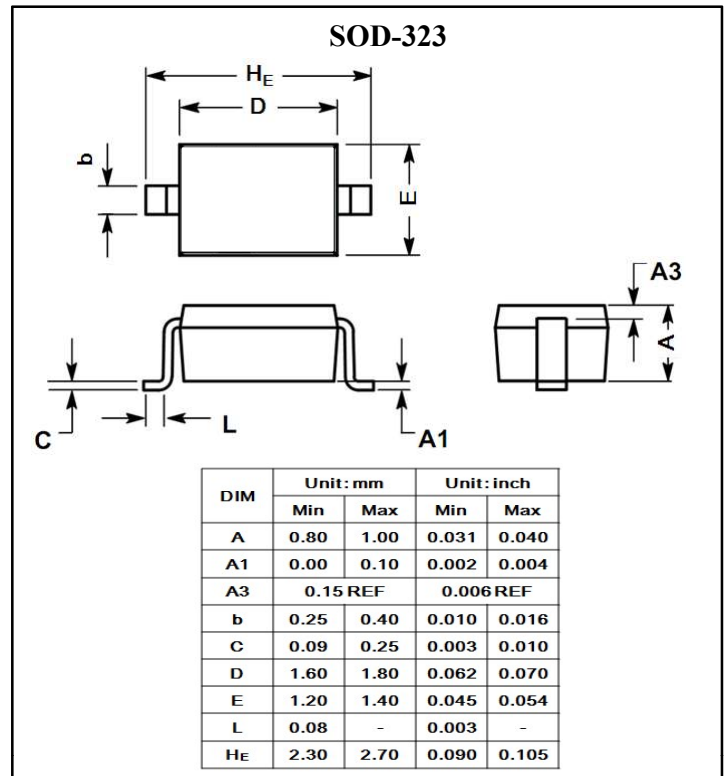
- 500W peak pulse power (8/20us)
- Protects one data or power line
- Ultra low leakage : nA level
- Operating voltage : 3.3V
- Ultra low clamping voltage
- JEDEC SOD-323 package
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : $\pm 30\text{kV}$
Contact discharge : $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

Mechanical Data

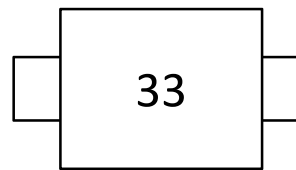
- Package : SOD-323
- Case Material : "Green" Molding Compound.
- Lead Finish : Matte Tin
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below
- Marking Information : See Below

Applications

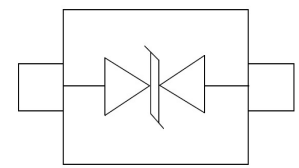
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Desktop and Servers



Marking



33 = Device Marking Code



Circuit and Pin Schematic

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	Ppk	500	W
Peak Pulse Current (8/20us)	Ipp	30	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Junction Temperature Range	T _J	-55 to +125	°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}	4.2	-	6.0	V	I _T = 2uA
Reverse Leakage Current	I _R	-	-	0.5	uA	V _{RWM} = 3.3V
Clamping Voltage	V _C	-	-	9	V	I _{PP} = 5A (8×20us pulse)
Clamping Voltage	V _C	-	-	17	V	I _{PP} = 30A (8×20us pulse)
Junction Capacitance	C _J	-	-	200	pF	f = 1MHz, V _R = 0V

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

Fig.1 Power Derating Curve

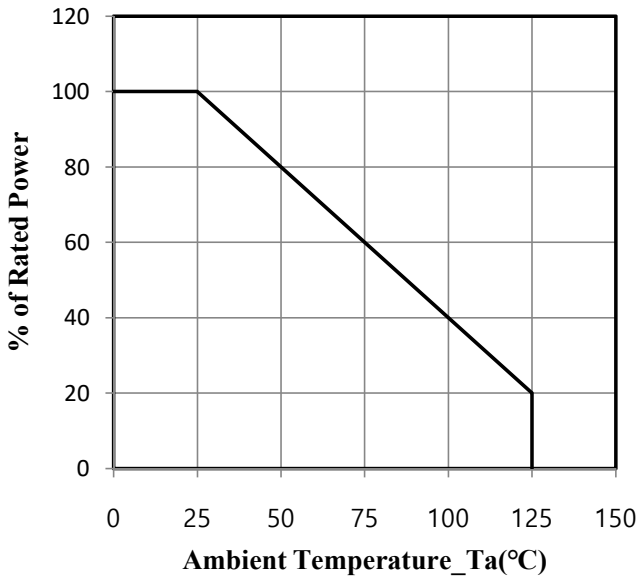


Fig.2 Peak Pulse Power vs. Pulse Time

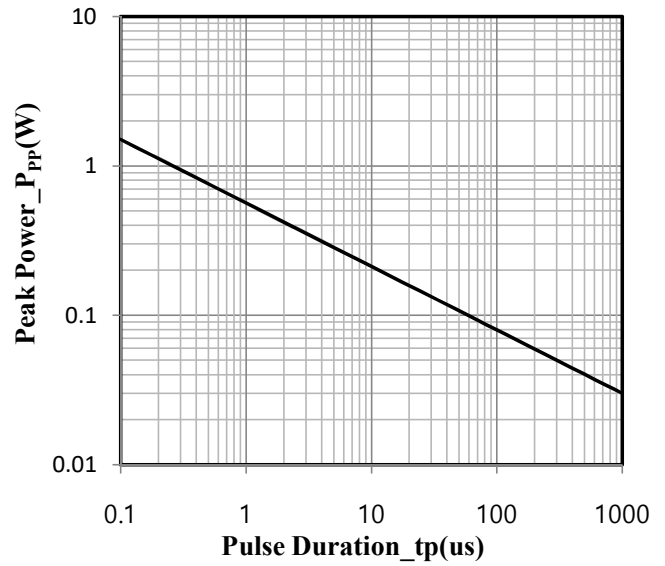


Fig.3 8 × 20us Pulse Waveform

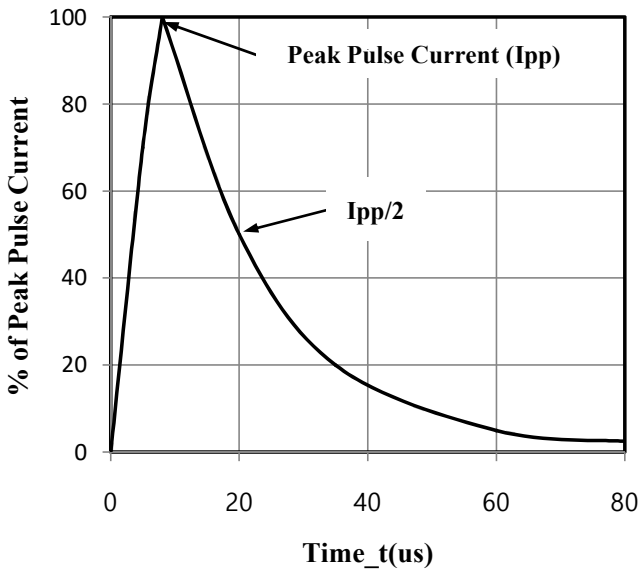


Fig.4 Junction Capacitance vs. Reverse Voltage

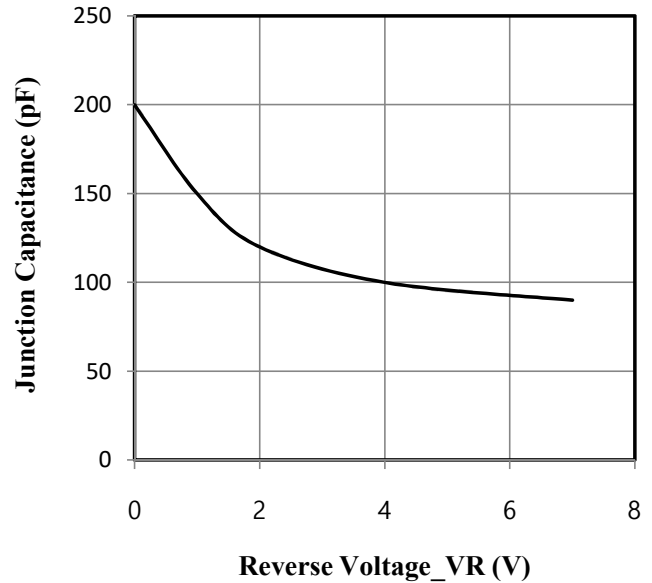
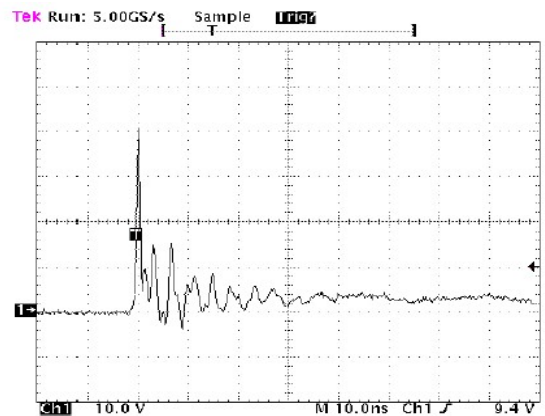
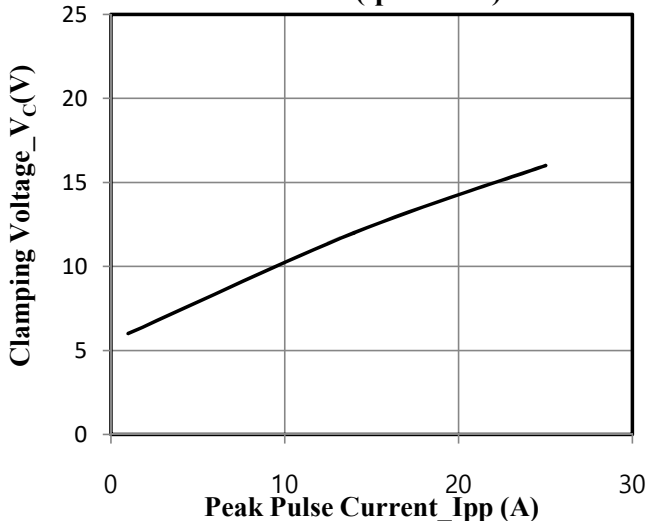


Fig.5 Clamping Voltage vs. Peak Pulse Current (tp=8/20us)



ESD Clamping Voltage
8kV Contact Per IEC61000-4-2