1-Line Uni-directional TVS Diode

Features

- Ultra low leakage: nA level
- Operating voltage: 4.5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 170A (8/20μs)
- RoHS Compliant

Applications

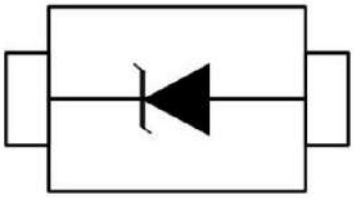
- Cell Phone Handsets andAccessories
- Microprocessor based equipment
- Personal DigitalAssistants(PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7 inch
- Device Marking: 45WG

Dimensions SOD-323

Pin Configuration



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	2500	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000−4−2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +125	℃

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				4.5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	4.8			V
Reverse Leakage Current	I_R	V_{RWM} = 4.5V			1	μA
Clamping Voltage	V_C	I_{PP} = 170A (8 x 20 μs pulse)			15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		610	650	pF

Electrical Parameters(TA=25°C unless otherwise specified)

V_{RWM} ……Reverse Working Voltage Max.

I_R …… Maximum Reverse Leakage Current @ V_{RWM}

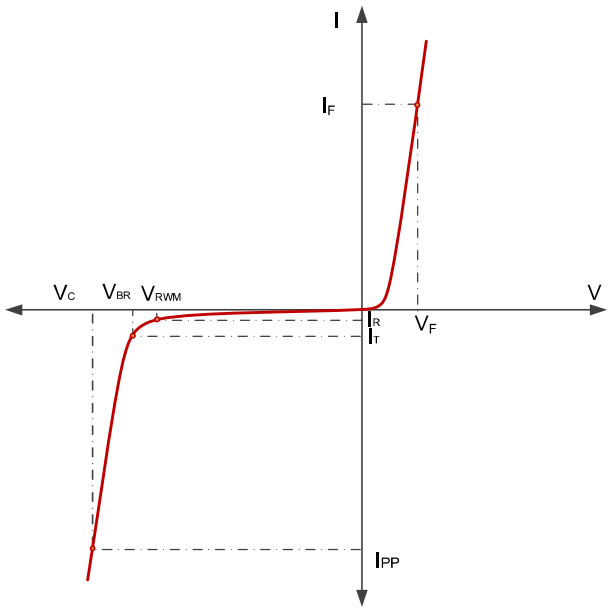
IT ……Test Current

V_F ……Forward Voltage

V_{BR} …… Reverse Breakdown Voltage

I_{PP} …… Maximum Reverse Peak Pulse Current

V_C …… Clamping Voltage @ I_{PP}



Typical Performance Characteristics(TA=25°C unless otherwise specified)

Figure1: Pulse Waveform- 8/20μs(IEC61000-4-5)

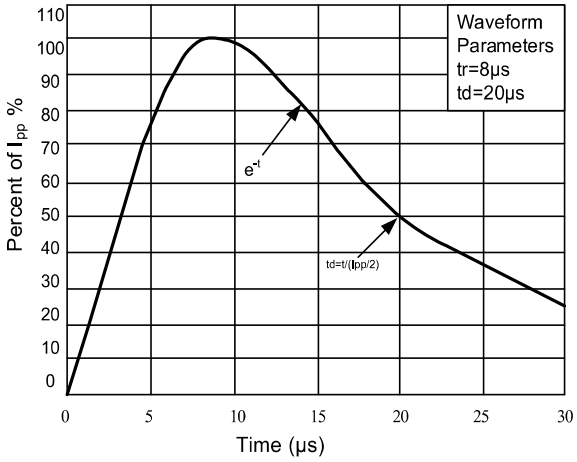


Figure 2: Power Derating Curve

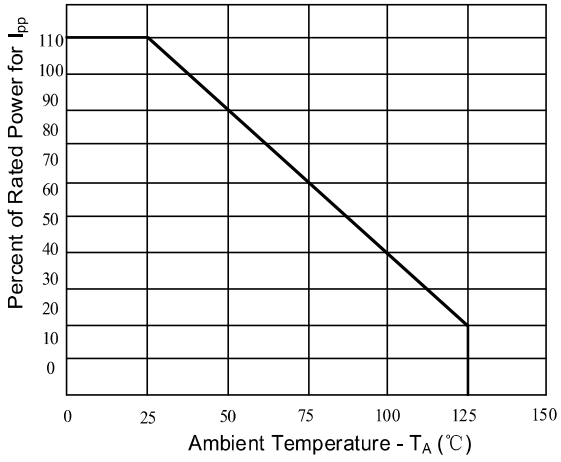


Figure3: Peak Pluse Power vs. Pluse Time

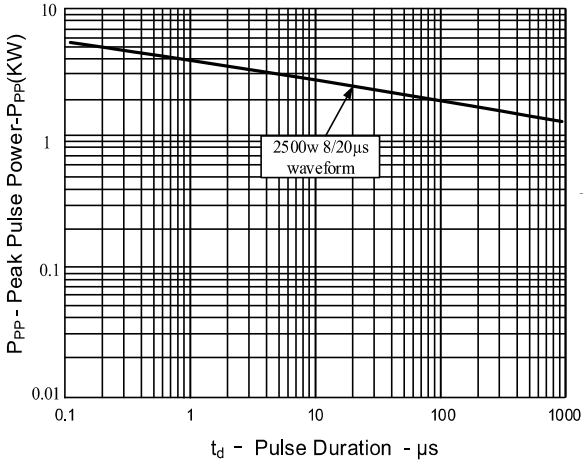
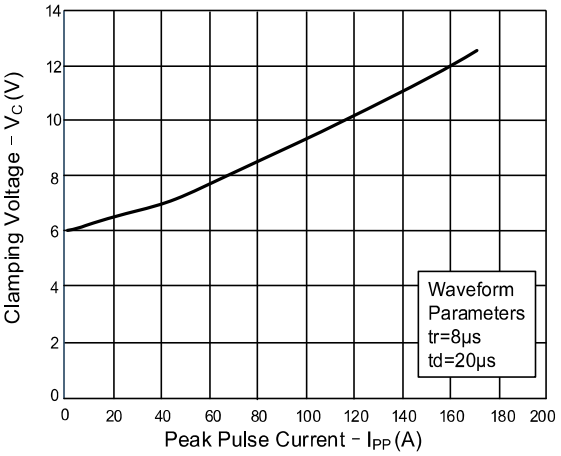
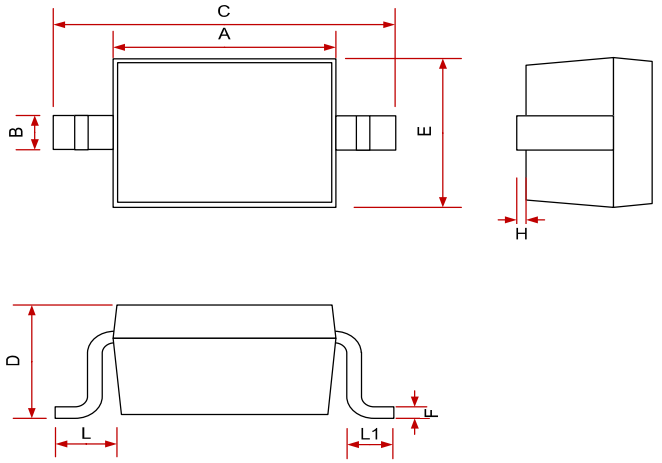


Figure4: Reverse Clamping Voltage vs. Peak Pulse Current

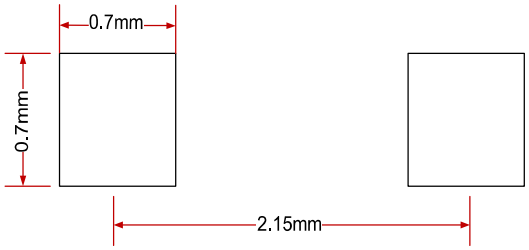


SOD-323 Package Outline Drawing



COMMON DIMENSION				
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	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

Suggested Land Pattern



* This land pattern is for reference purposes only