



Transient Voltage Suppressors for ESD Protection

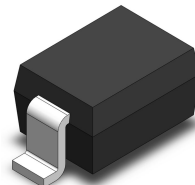
Applications

- ◆ Cellular phones
- ◆ Portable devices
- ◆ Digital cameras
- ◆ Power supplies

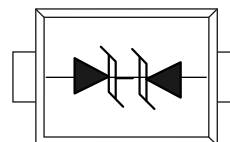
Features

- ◆ Small Body Outline Dimensions
- ◆ Low Body Height
- ◆ Peak Power up to 150 Watts @ 8 x 20 μ s Pulse
- ◆ Low Leakage current
- ◆ Response Time is Typically < 1 ns
- ◆ ESD Rating of Class 3 (> 16 kV) per Human Body Model
- ◆ IEC61000-4-2 Level 4 ESD Protection
- ◆ IEC61000-4-4 Level 4 EFT Protection

SOD-323



PIN CONFIGURATION



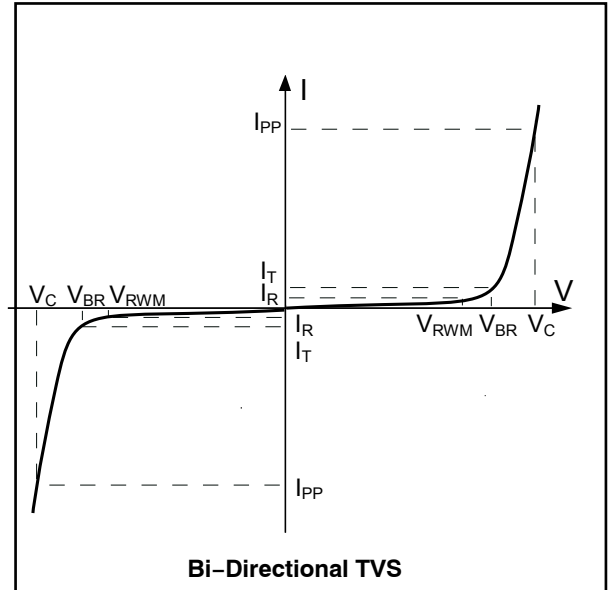
MAXIMUM RATINGS(Ta = 25°C)			
Rating	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20s)	Ppp	170	W
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C
Storage Temperature Range	T _{op}	-55 to +155	°C
Operating Temperature Range	T _j	-40 to +125	°C
Maximum Junction Temperature	T _J	150	°C
IEC61000-4-2 (ESD)	air discharge contact discharge	±15	KV
		±8	
IEC61000-4-4 (EFT)		40	A
ESD Voltage	Per Human Body Model	16	KV



ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified. $V_F = 0.9\text{V}$ at $I_F = 10\text{mA}$

Device	V_{RWM} (V) (max.)	$I_{R1}(\mu\text{A})$ @ V_{RWM} (max.)	V_{BR} (V) @ I_T (Note 1) (min.)	I_T mA	V_C (V) @ $I_{PP}=5\text{A}$ (Typ)	V_C (V) @ MAX I_{PP} (max.)	I_{PP} (A)* (max.)	P_{PK} (W) Max	C (pF) (Typ)
ESD3Z5.0CMT1G	5.0	1.0	5.6	1.0	11.6	18.6	9.4	174	25

*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .

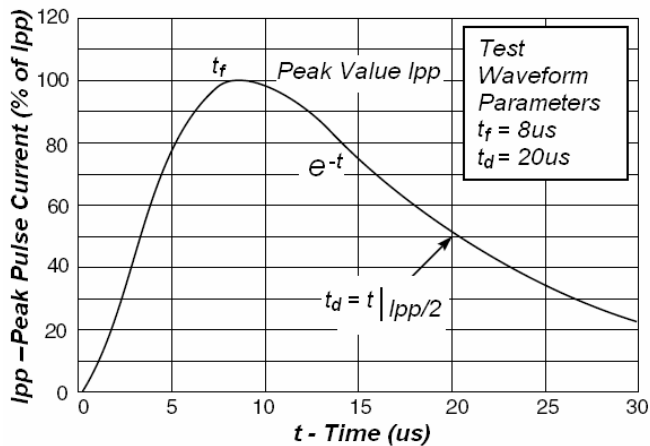


Fig1. Pulse Waveform

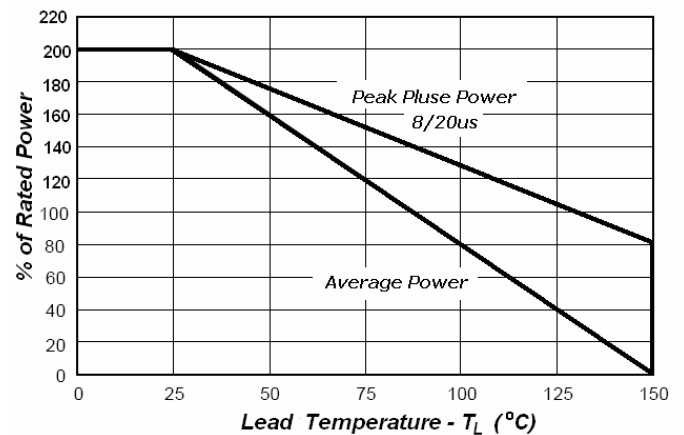
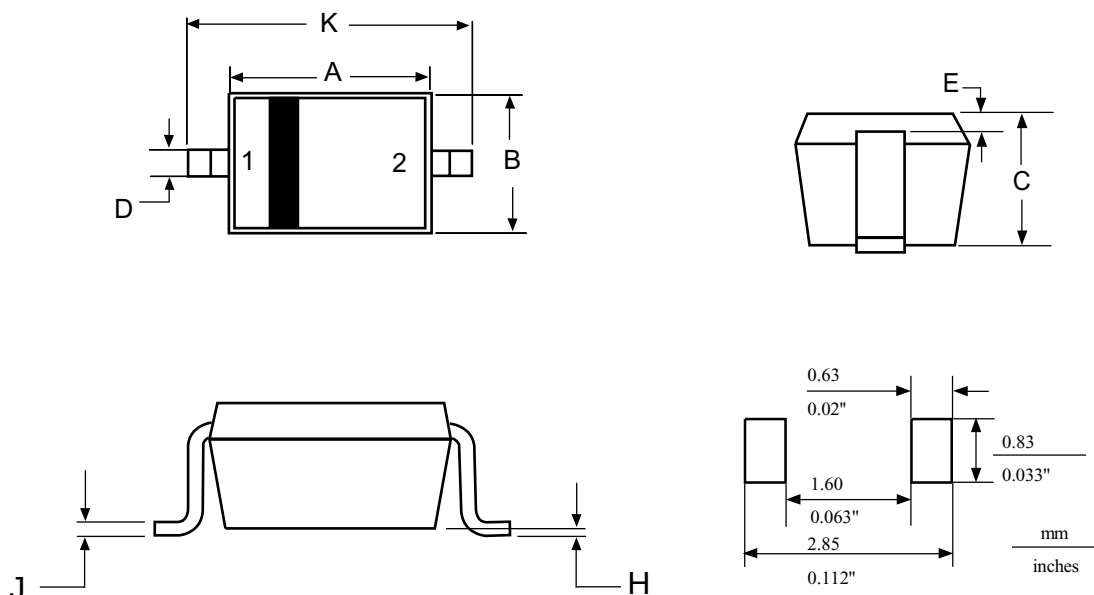


Fig2. Power Derating Curve



SOD-323



NOTES:

1. DIMENSIONING AND TOLERANCING
PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

PIN: 1. CATHODE
2. ANODE