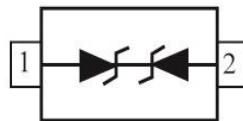
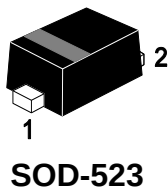


Transient Voltage Suppressors for ESD Protection

FEATURES:

- Protects one data or power line
- Ultra low leakage: nA level
- 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: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 8A (8/20 μs)
- ROHS Compliant

Circuit Diagram & Pin Configuration:



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
CESDB5V0D5	5C	3000/Tape&Reel

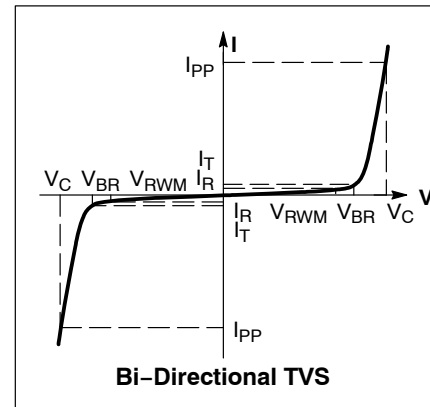
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

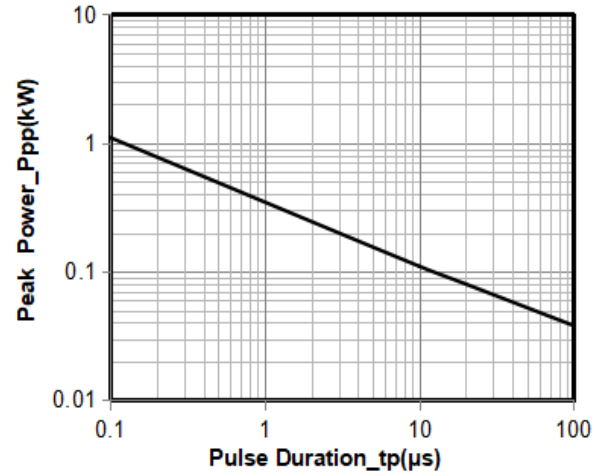
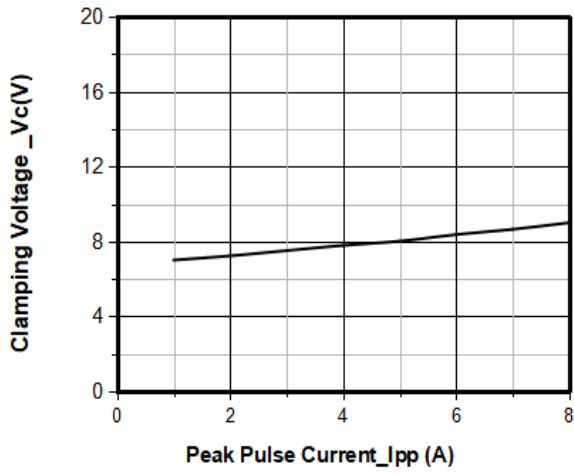
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance @ $V_R = 0$ and $f = 1.0$ MHz

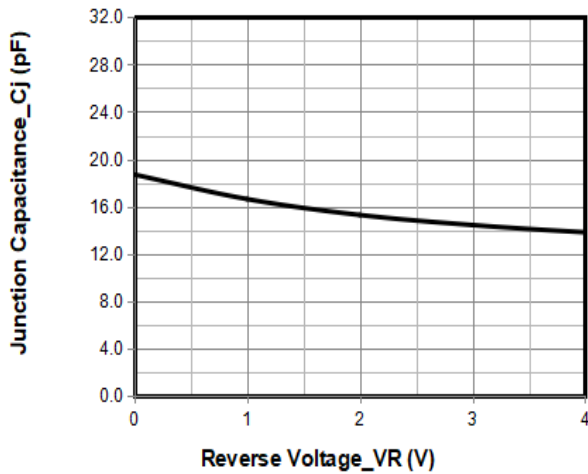


Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

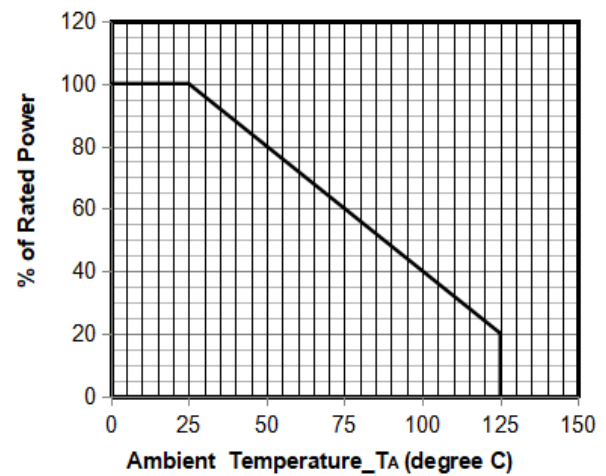
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6		8	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R			0.2	μA	$V_{RWM} = 5\text{V}$
Clamping Voltage	V_C			8	V	$I_{PP} = 1\text{A}$
Clamping Voltage	V_C			10	V	$I_{PP} = 8\text{A}$
Junction Capacitance	C_J			20	pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$



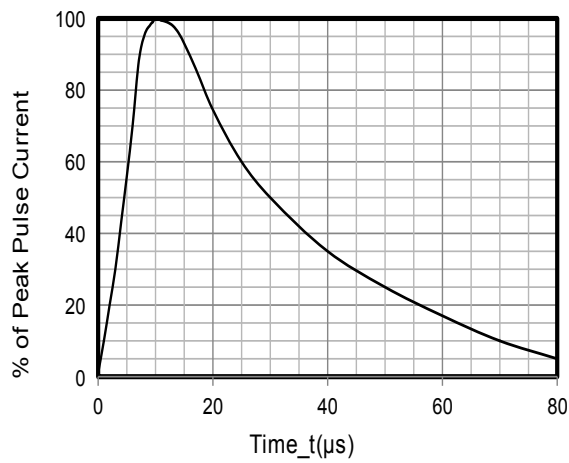
Junction Capacitance vs. Reverse Voltage



Peak Pulse Power vs. Pulse Time

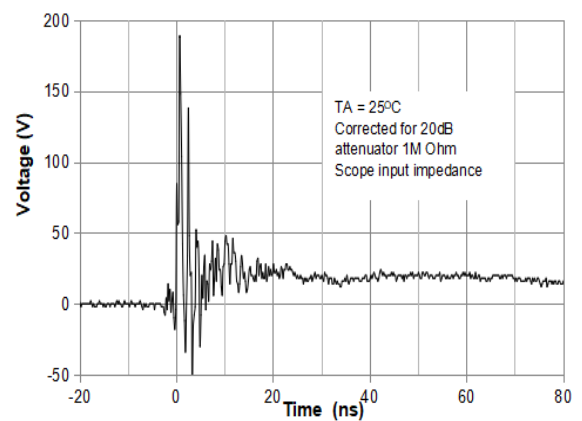


Clamping Voltage vs. Peak Pulse Current ($t_p = 8/20\mu$ s)



8 X 20 μ s Pulse Waveform

Power Derating Curve



ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

IEC 61000-4-2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8

IEC61000-4-2 Waveform

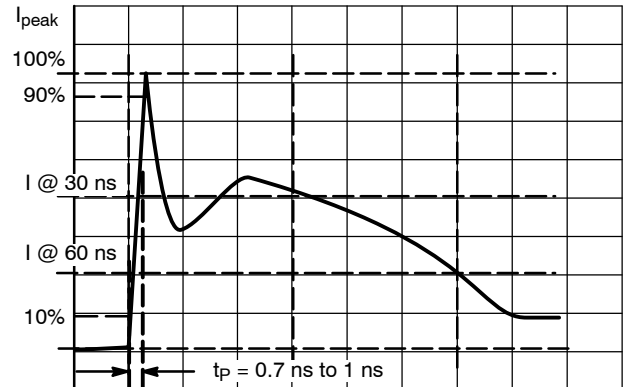


Figure 3. IEC61000-4-2 Spec

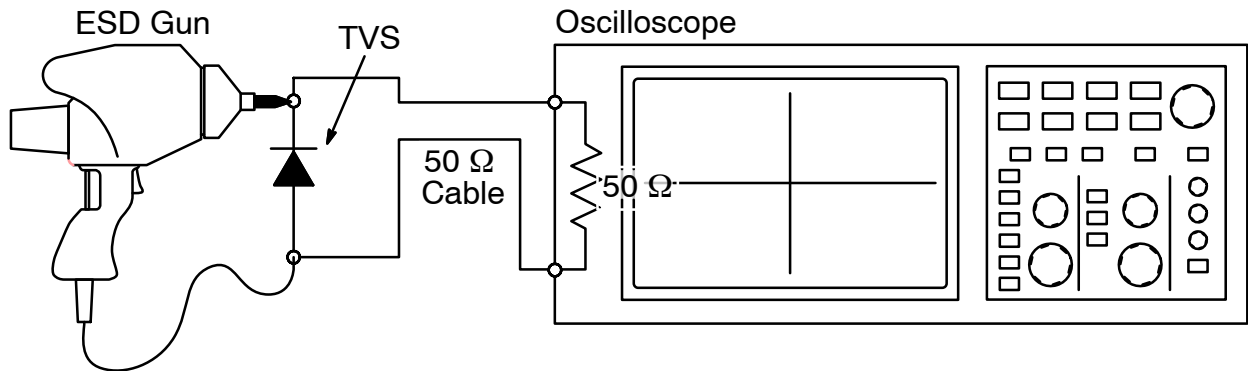


Figure 4. Diagram of ESD Test Setup

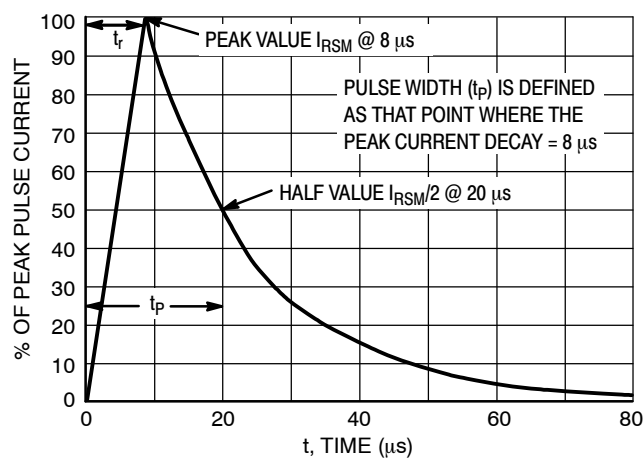
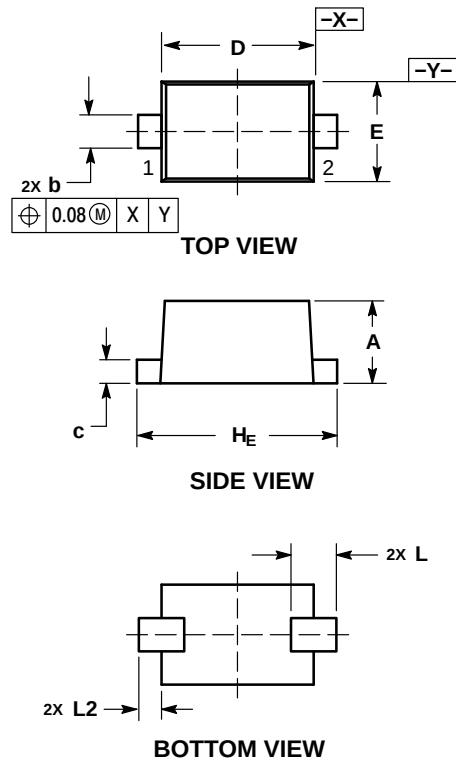


Figure 5. 8 X 20 μ s Pulse Waveform

PACKAGE DIMENSIONS

SOD-523



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: MILLIMETERS.
 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
 4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS		
	MIN	NOM	MAX
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
H _E	1.50	1.60	1.70
L	0.30 REF		
L2	0.15	0.20	0.25

STYLE 1:
PIN 1. CATHODE (POLARITY BAND)
2. ANODE

RECOMMENDED SOLDERING FOOTPRINT*

