

Surface Mount Transient Voltage Suppressor Diode

Features

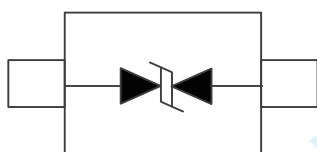
- ✧ ESD protection of one line
- ✧ Solid-state silicon-avalanche technology
- ✧ Working Voltage: 5.0V
- ✧ Peak Power up to 80 Watts @ 8 x 20 μ s Pulse
- ✧ Low Leakage current
- ✧ Response Time is Typically < 1 ns
- ✧ Low capacitance (Cj=20pF typ.)
- ✧ IEC 61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact)
- ✧ IEC 61000-4-4 (EFT) 40A (5/50ns)

Applications

- ✧ Cellular Handsets & Accessories
- ✧ Portable devices
- ✧ Powerline or Dataline
- ✧ Computer & Notebook

Mechanical Data

- ✧ UL Flame Rating : UL94V-0
- ✧ Reel Size : 7 inch
- ✧ RoHS/WEEE Compliant



Circuit Diagram



SOD523

Absolute Maximum Rating at $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	80	Watts
Peak Pulse Current ($t_p = 8/20\mu\text{s}$) (note1)	I_{pp}	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to + 150	$^{\circ}\text{C}$

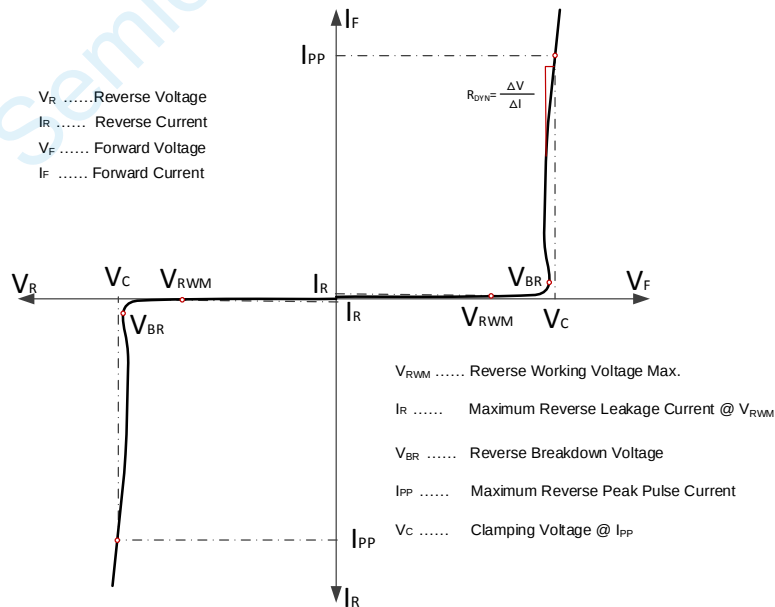
Electrical Characteristics at $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$, $T=25^{\circ}\text{C}$			1	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu\text{s}$			8	A
Clamping Voltage	V_C	$I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$		7		V
Clamping Voltage	V_C	$I_{PP}=8\text{A}$, $t_p=8/20\mu\text{s}$			10	V
ESD Clamping Voltage	V_C	$t_p=0.2/100\text{ns}$, $I_{TLP}=4\text{A}$		10.5		V
ESD Clamping Voltage	V_C	$t_p=0.2/100\text{ns}$, $I_{TLP}=16\text{A}$		14.5		V
Dynamic Resistance	R_{DYN}	$t_p=0.2/100\text{ns}$		0.33		Ω
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		20	25	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

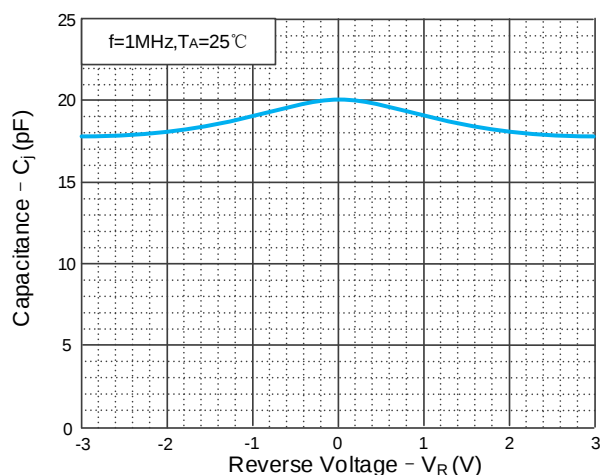
1. All parameters specified at $T_A = 25^{\circ}\text{C}$ unless otherwise noted.
2. These parameters are guaranteed by design and characterization.
3. Standard IEC 61000-4-2 with $C_{Discharge} = 150\text{ pF}$, $R_{Discharge} = 330\text{ }\Omega$

Electrical Parameters at $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

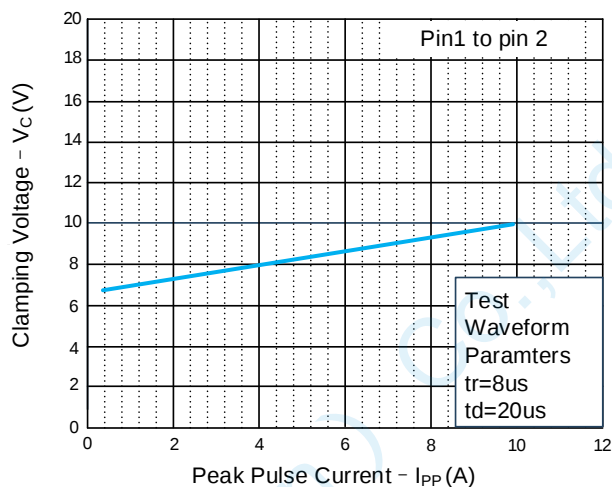


Typical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

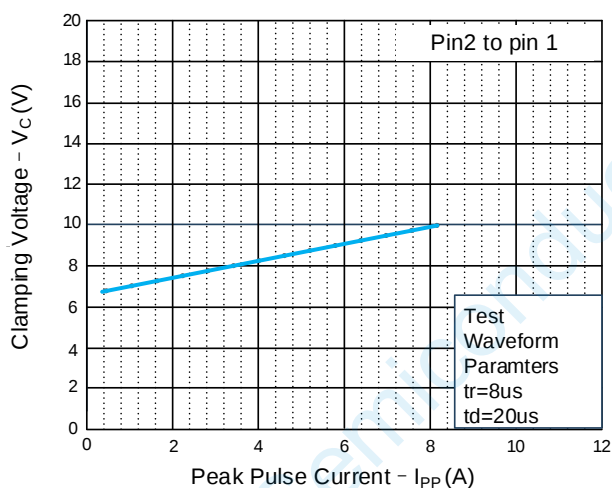
Capacitance vs. Reverse Voltage



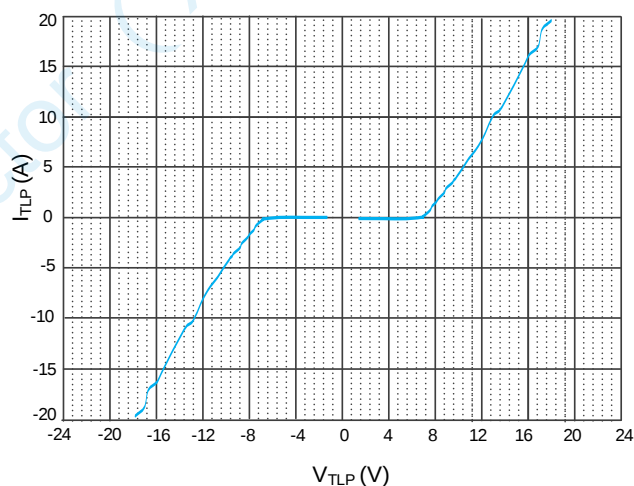
Reverse Clamping Voltage vs. Peak Pulse Current



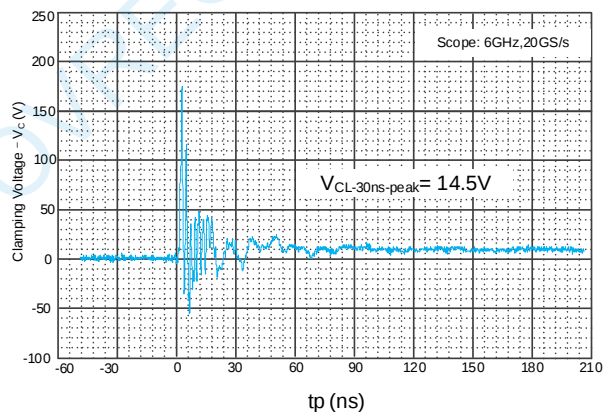
Forward Clamping Voltage vs. peak PulseCurrent



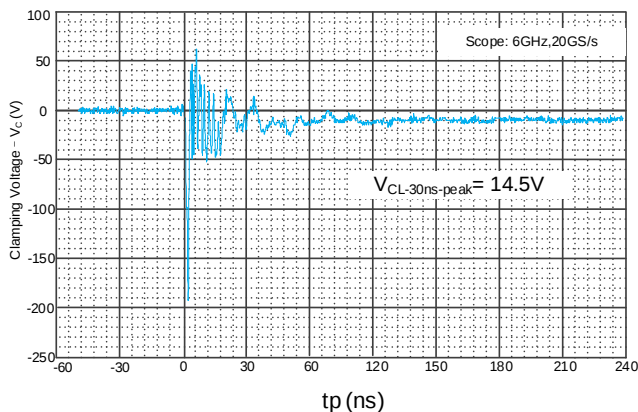
TLP Measurement



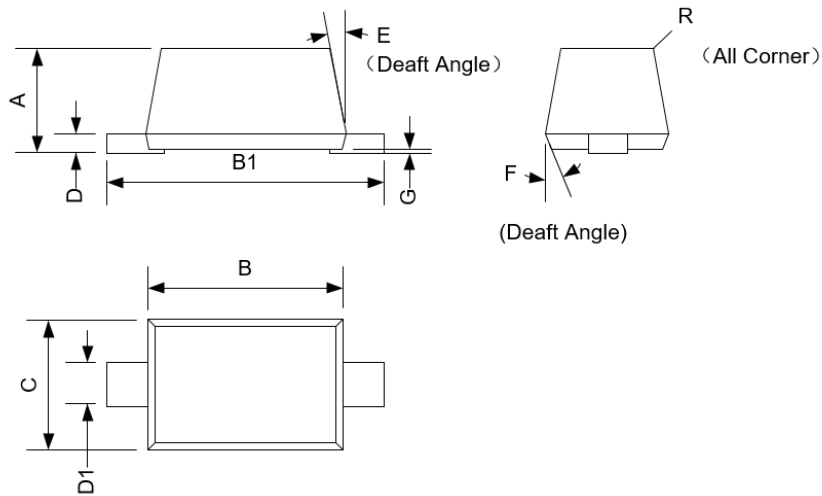
IEC61000-4-2 :15 kV positive pulse from pin 1 to pin 2



IEC61000-4-2 :15 kV negative pulse from pin 1 to pin 2

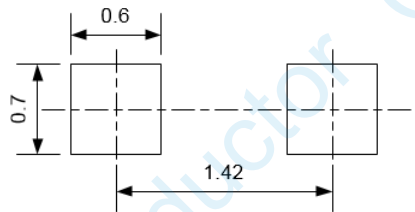


Package information



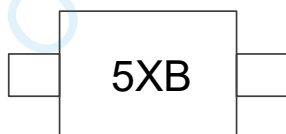
Symbol	Dim in mm		
	Min.	Nom.	Max.
A	0.600	0.650	0.700
B	1.150	1.200	1.250
B1	1.550	1.600	1.650
C	0.750	0.800	0.850
D	0.100	0.110	0.120
D1	0.280	0.330	0.380
E	6°	7°	8°
F	9°	10°	11°
G	0.000	-	0.020
R	0.020	-	0.050

Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVE2682A1	GREEN	T/R	7 inch	5k/reel	10reel= 50k/box	4boxes=200k/carton