Surface Mount Transient Voltage Suppressor Diode

Features

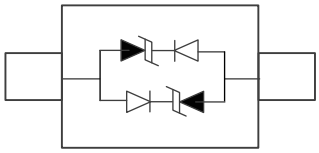
- ✧ Bi-directional protection of one line
- ✧ Solid-state silicon-avalanche technology
- ✧ Working Voltage: 5.0V
- ✧ Peak Power up to 360 Watts @ 8 x 20μs Pulse
- ✧ Low Leakage current
- ✧ Low capacitance
- ✧ IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC 61000-4-4 (EFT) 40A (5/50ns)

Applications

- ✧ Serial ATA protection
- ✧ Portable devices
- ✧ 10/100/1000 Ethernet
- ✧ Power supplies

Mechanical Data

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



Circuit Diagram



SOD323

Absolute Maximum Rating at T_A = 25 °C, unless otherwise specified

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	360	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	18	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)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 150	℃

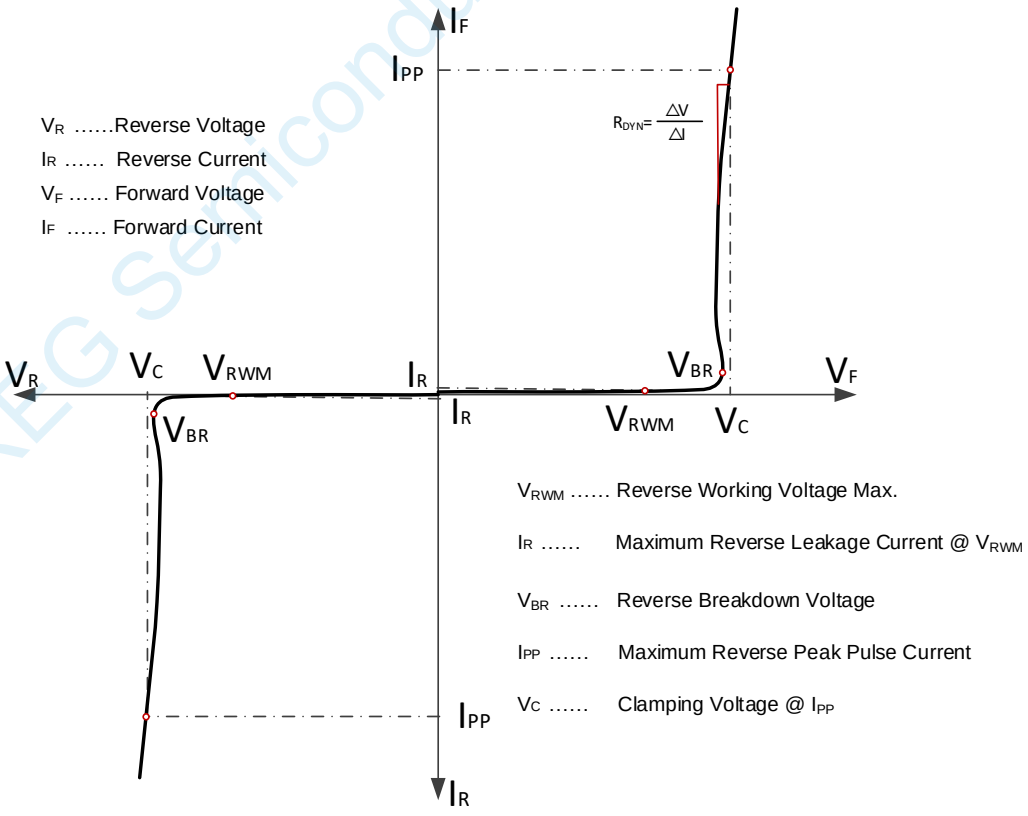
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Electrical Characteristics at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0		9.0	V
Reverse Leakage Current	I_R	V_{RWM}=5.0V, T=25℃			1	μA
Peak Pulse Current	I_{PP}	tp =8/20μs			18	A
Clamping Voltage	V_C	I_{PP}=10A, tp=8/20μs		10	12	V
Clamping Voltage	V_C	I_{PP}=18A, tp=8/20μs		18	20	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		0.9	1.2	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°C unless otherwise noted.
2. These parameters are guaranteed by design and characterization.
3. Standard IEC 61000−4−2 with $C_{Discharge}$ = 150 pF, $R_{Discharge}$ = 330 Ω

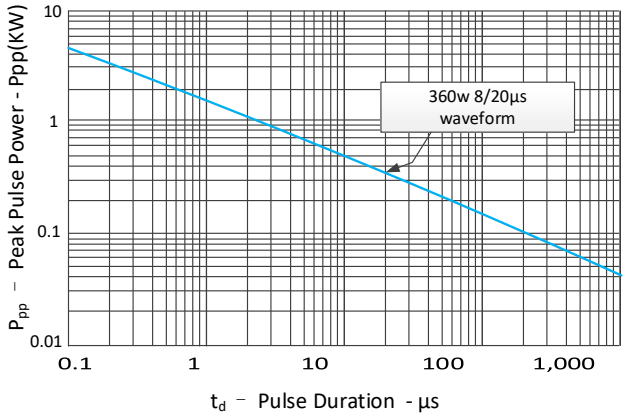
Electrical Parameters at T_A = 25 °C, unless otherwise specified



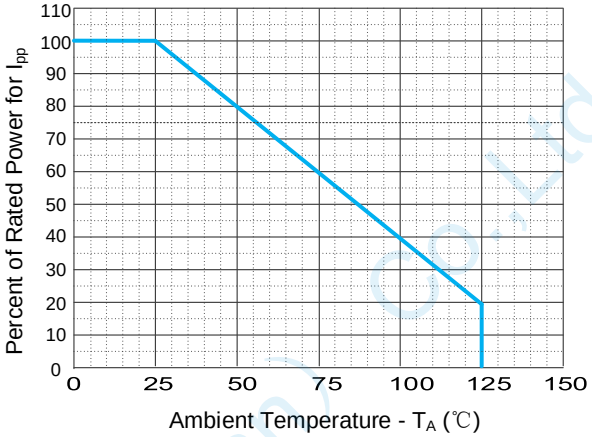
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Typical Characteristics at T_A = 25 °C, unless otherwise specified

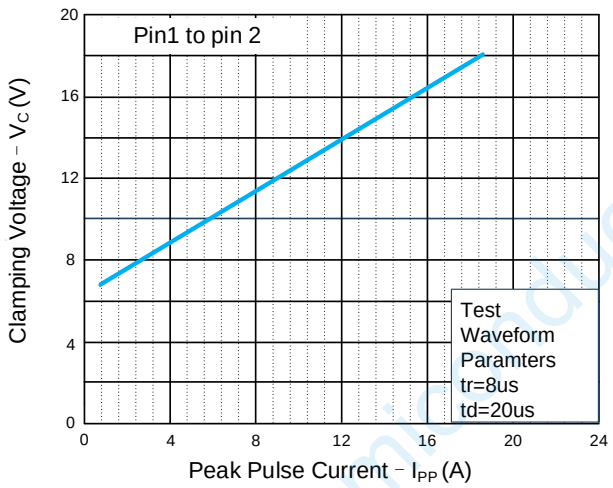
Peak Pulse Power vs. Pulse Time



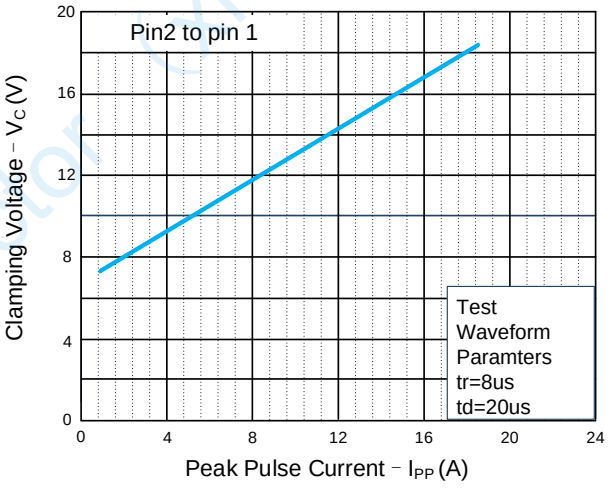
Power derating vs. Ambient temperature



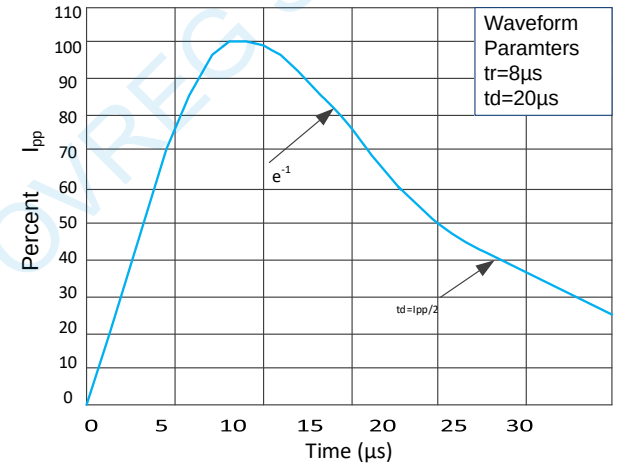
Forward Clamping Voltage vs. peak PulseCurrent



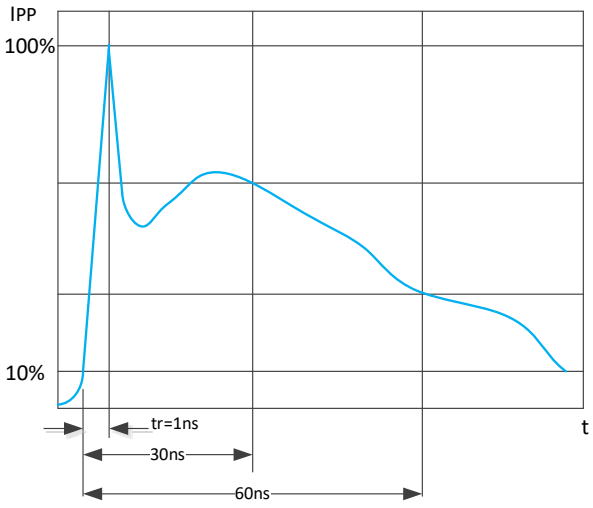
Reverse Clamping Voltage vs. Peak Pulse Current



8/20uS Pulse Waveform

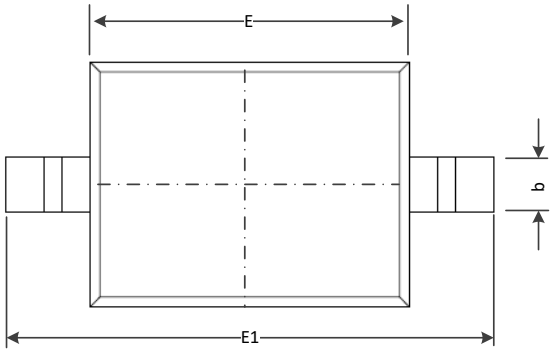


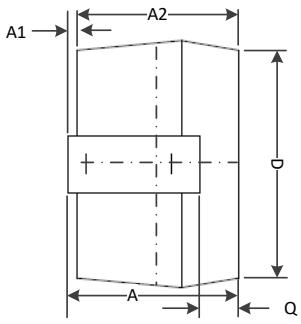
IEC61000-4-2 +8kV Pulse Waveform

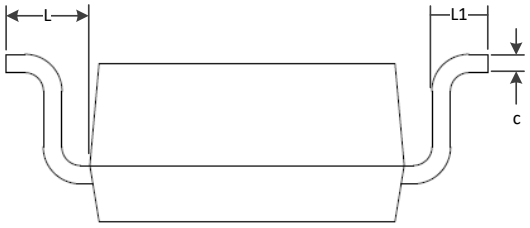


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Package Information

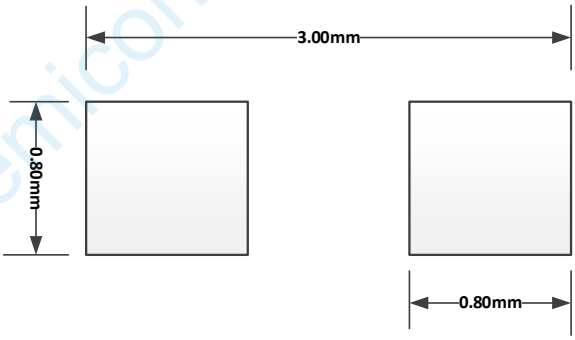






COMMOM DIMENSION (MM)			
PKG	SOD323		
Symbol	MIN.	NOM.	MAX.
A	0.800	0.900	1.000
A1	0.000	0.050	0.100
A2	0.800	0.850	0.900
b	0.250	0.300	0.350
c	0.080	-	0.150
D	1.200	1.300	1.400
E	1.600	1.700	1.800
E1	2.500	2.600	2.700
L	0.475 REF		
L1	0.250	0.260	0.270
Q	0.250 REF		

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
OVES172A1	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton

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