Surface Mount Transient Voltage Suppressor Diode

Features

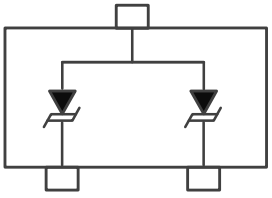
- ✧ Uni-directional ESD protection for two lines
- ✧ Solid-state silicon-avalanche technology
- ✧ Working Voltage: 5V
- ✧ Peak Power up to 360 Watts @ 8 x 20μs Pulse
- ✧ Low Leakage current
- ✧ IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)

Applications

- ✧ Industrial control networks
- ✧ Smart distribution systems
- ✧ DeviceNet
- ✧ Factory automation systems

Mechanical Data

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



Circuit Diagram



SOT23

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}	24	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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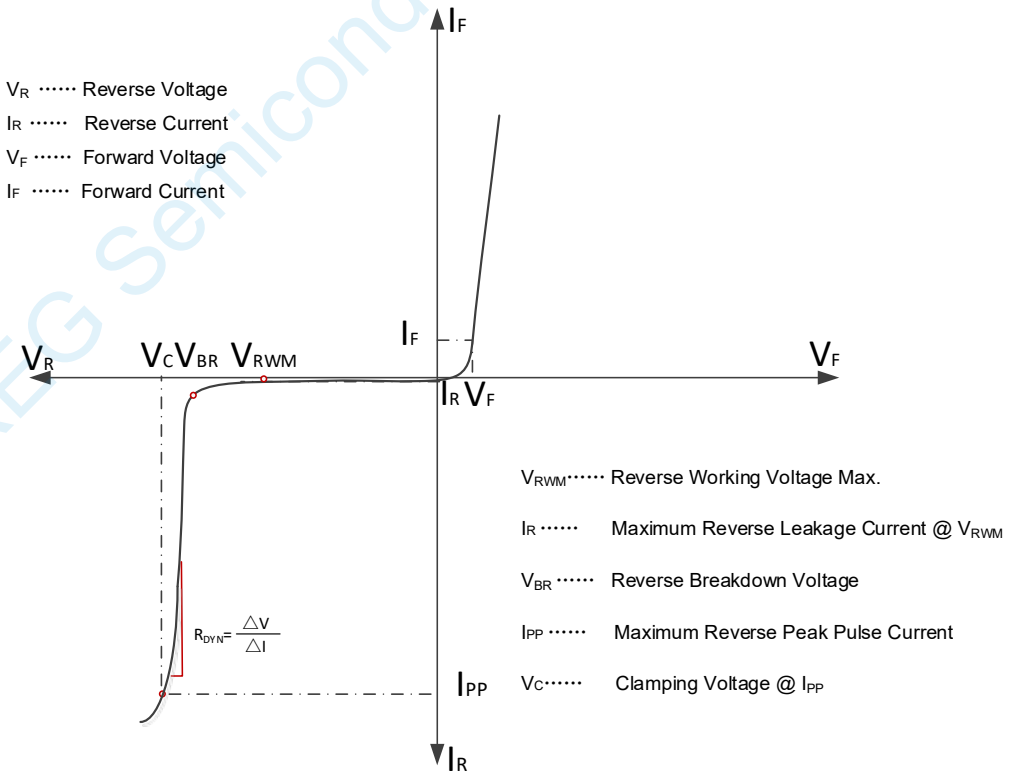
Electrical Characteristics at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6			V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25℃			1	μA
Peak Pulse Current	I_{PP}	tp =8/20μs			24	A
Clamping Voltage	V_C	I_{PP}=1A, tp=8/20μs		7	8	V
Clamping Voltage	V_C	I_{PP}=24A, tp=8/20μs		13	15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		170	200	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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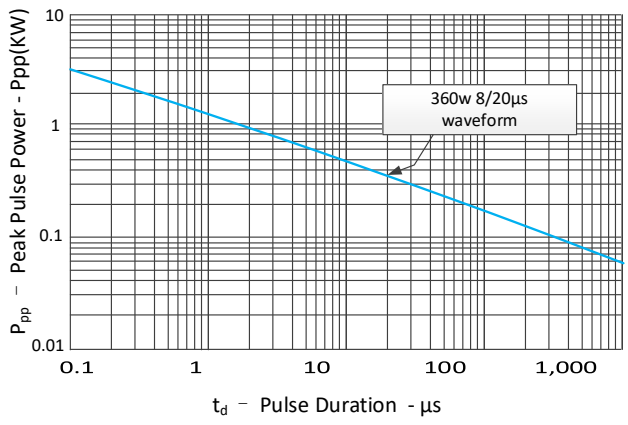
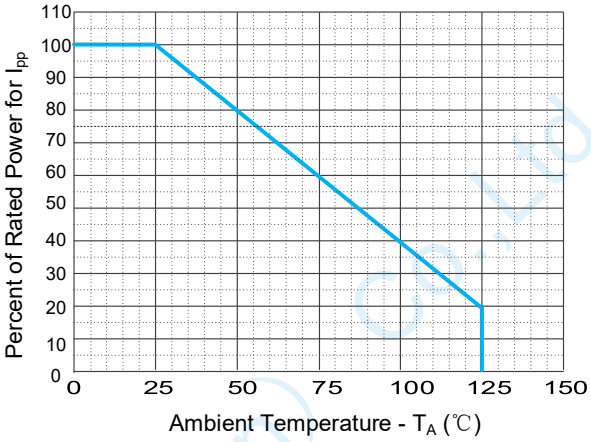
Typical Characteristics at T_A = 25 °C, unless otherwise specified

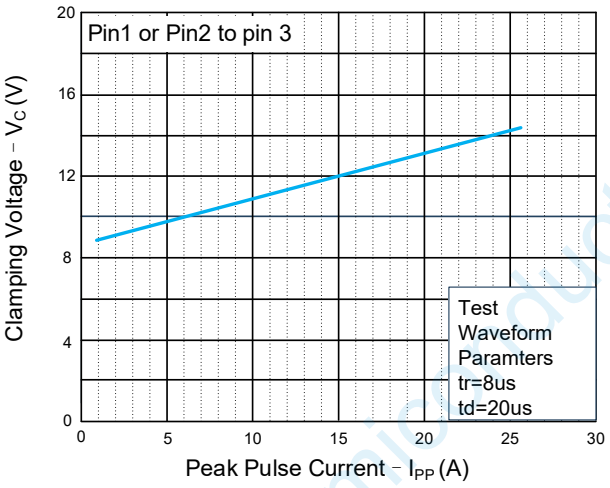
Peak Pulse Power vs. Pulse Time



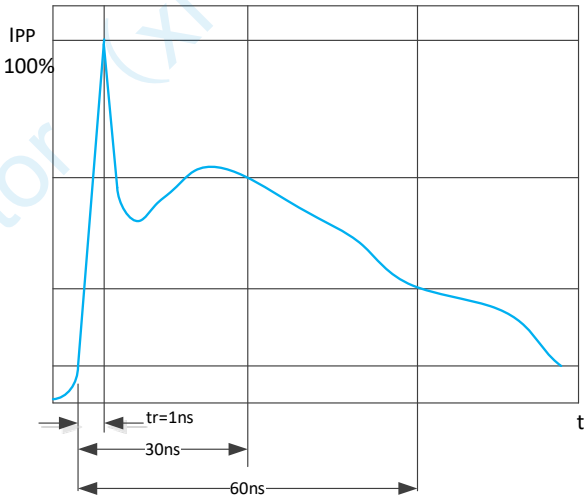
Power derating vs. Ambient temperature



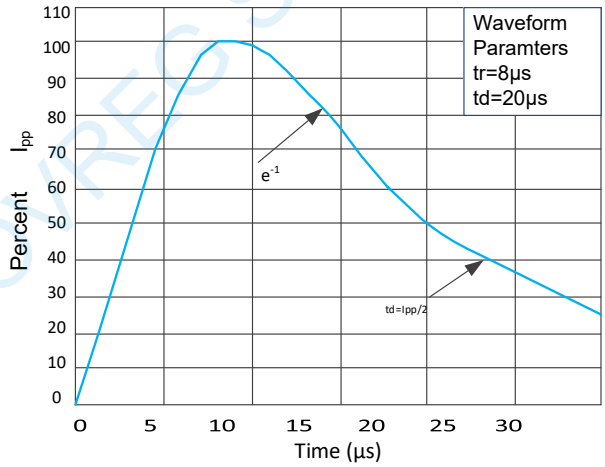
Forward Clamping Voltage vs. peak PulseCurrent



IEC61000-4-2 +8kV Pulse Waveform



8/20uS Pulse Waveform



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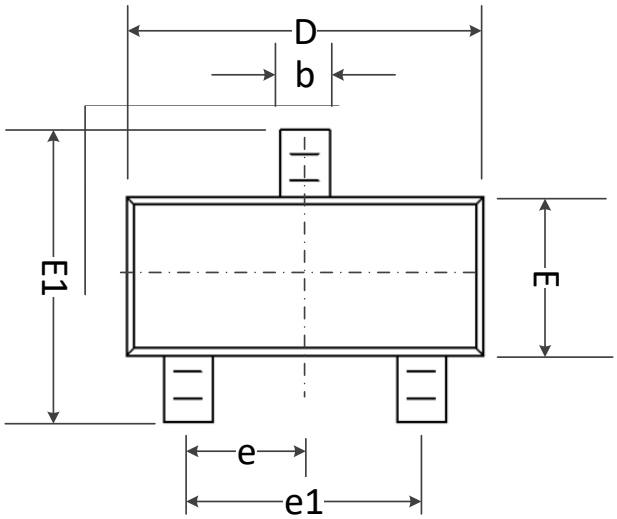
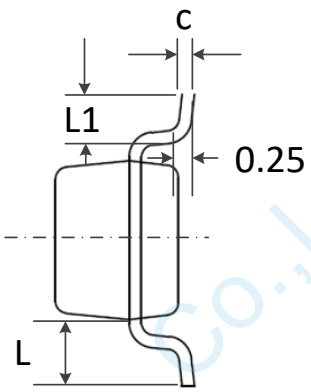
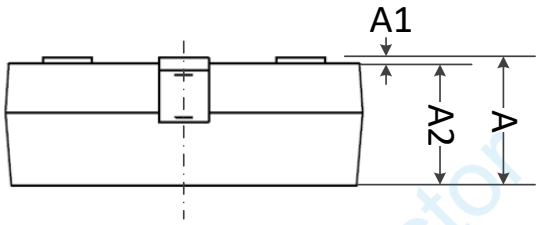
Package information

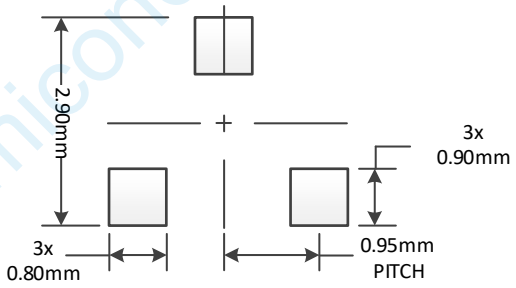




COMMON DIMENSION (MM)			
PKG	SOT23		
REF.	MIN.	NOM.	MAX.
A	0.90	-	1.15
A1	0.00	-	0.10
A2	0.90	1.00	1.05
b	0.30	-	0.50
c	0.08	-	0.15
D	2.80	2.90	3.00
E	1.20	1.30	1.40
E1	2.25	2.40	2.55
e	0.95TYP		
e1	1.80	1.90	2.00
L	0.55REF		
L1	0.30	0.45	0.50

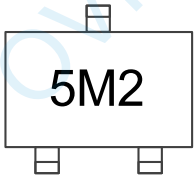


Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVE23E25A1M	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton

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