Surface Mount Transient Voltage Suppressor Diode Array

Features

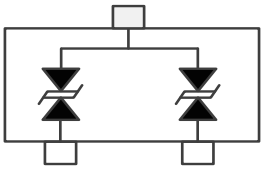
- ESD protection of two +12V to -7V lines
- Solid-state silicon-avalanche technology
- Peak Power up to 500 Watts @ 8 x 20μs Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- Low capacitance (C_j=70pF typ.)
- IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

Applications

- Protection of RS-485 transceiver
- Automatic Teller Machines
- Security systems
- Networks

Mechanical Data

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



Circuit Diagram



SOT-23

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

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	500	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	20	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	℃

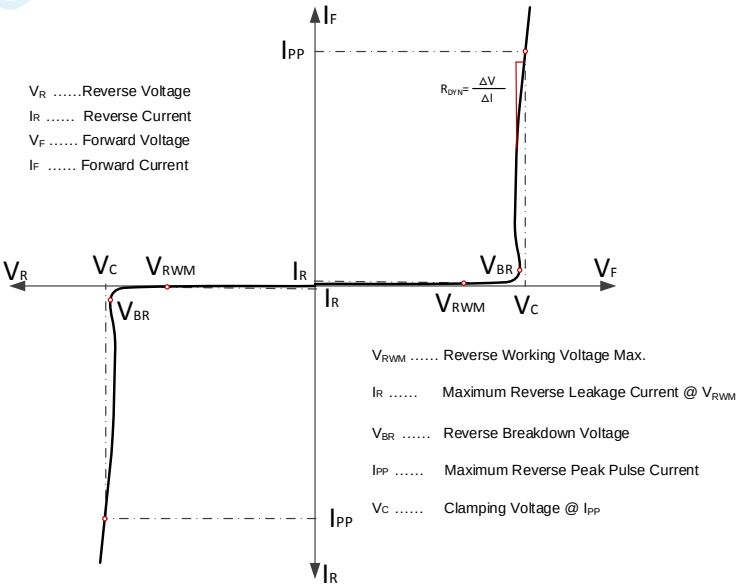
Electrical Characteristics at T_A = 25 °C, unless otherwise specified

12V TVS Parameter (pin1 / pin2 to pin3)	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	13.3			V
Reverse Leakage Current	I_R	V_{RWM}=12V, T=25℃			1.0	μA
Peak Pulse Current	I_{PP}	tp =8/20μs			20	A
Clamping Voltage	V_C	I_{PP}=20A, tp=8/20μs			25	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		70	90	pF
7V TVS Parameter (pin3 to pin1 / pin2)	**Symbol**	**Conditions**	**Min.**	**Typical**	**Max.**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				7	V
Reverse Breakdown Voltage	V_{BR}	IT=1mA	8			V
Reverse Leakage Current	I_R	VRWM=7V, T=25℃			1.0	μA
Peak Pulse Current	I_{PP}	tp =8/20μs			28	A
Clamping Voltage	V_C	IPP=28A, tp=8/20μs			20	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		70	90	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

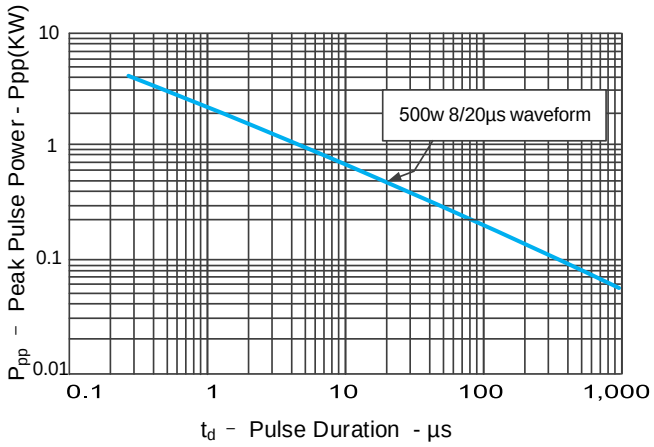
Electrical Parameters at T_A = 25 °C, unless otherwise specified



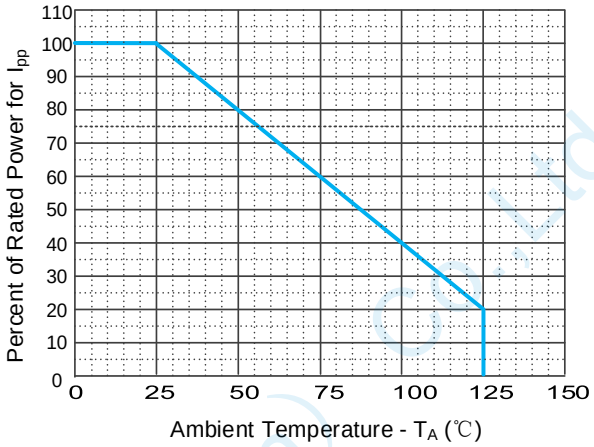
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Typical Characteristics at T_A = 25 °C, unless otherwise specified

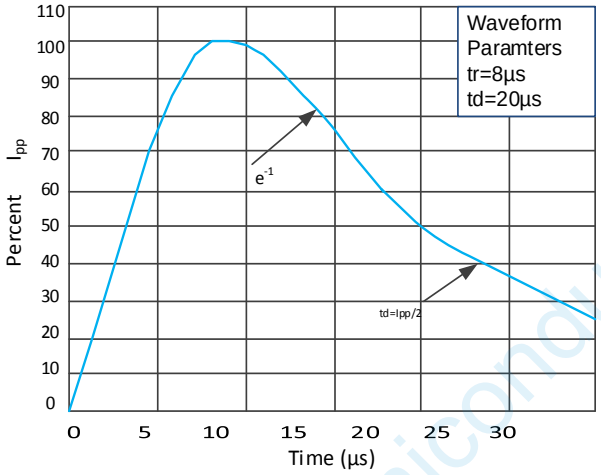
Non-repetitive Peak Pulse Power vs. Pulse Time



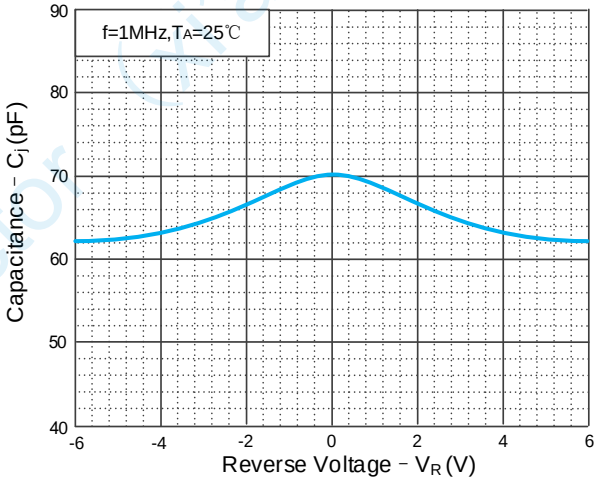
Power derating vs. Ambient temperature



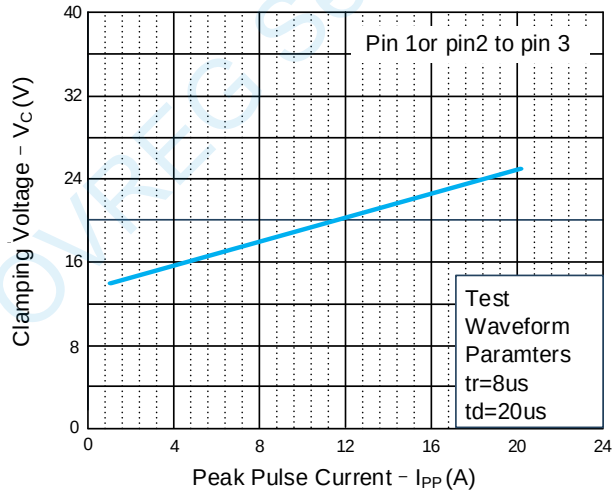
8/20uS Pulse Waveform



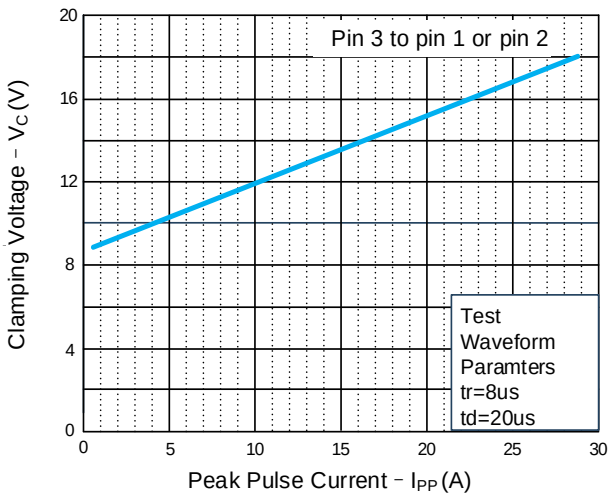
Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current

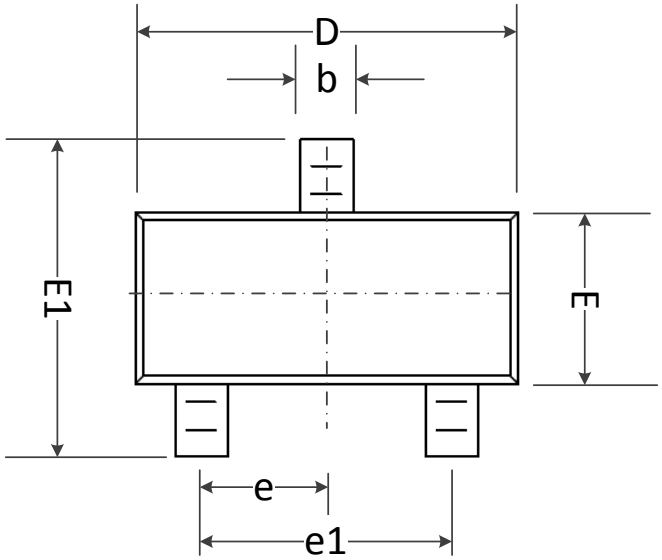


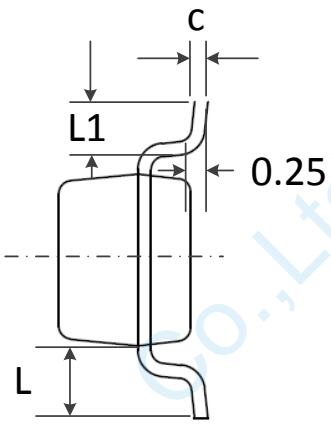
Clamping Voltage vs. peak PulseCurrent



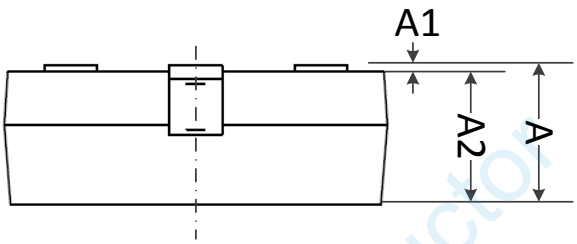
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Package information

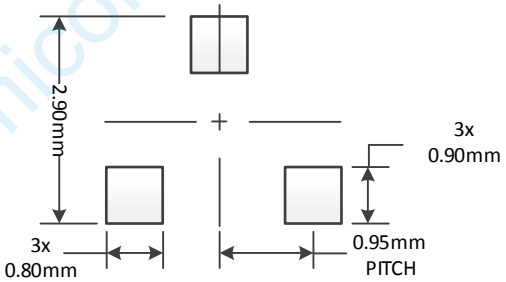




COMMON DIMENSION (MM)			
PKG	SOT23		
REF.	MIN.	NOM.	MAX.
A	0.90	-	1.15
A1	0.00	-	0.10
A2	0.90	1.00	1.05
b	0.30	-	0.50
c	0.08	-	0.15
D	2.80	2.90	3.00
E	1.20	1.30	1.40
E1	2.25	2.40	2.55
e	0.95TYP		
e1	1.80	1.90	2.00
L	0.55REF		
L1	0.30	0.45	0.50

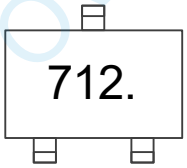


Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVE6125QP1	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton

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