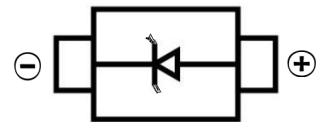


TRANSIENT VOLTAGE SUPPRESSOR For ESD Protection
FEATURES

- Excellent clamping capability
- Low leakage
- Fast response time


SOD-523

MECHANICAL DATA

- Case: SOD-523
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC61000-4-2 (ESD) Air Contact	V _{ESD}	± 30 ± 30	KV
ESD Voltage Per Human Body Model Per Machine Model	V _{ESD}	16 400	KV V
Power Dissipation on FR-5 Board	P _{tot}	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	- 55 to + 150	°C

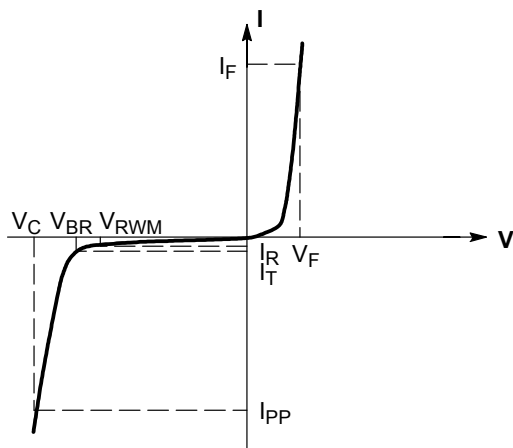
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)(V_F = 1.1 V Max. at I_F = 10 mA)

Type	Marking Code	Reverse Stand-off Voltage	Reverse Current	Breakdown Voltage		Clamping Voltage			Reverse Peak Pulse Current	Peak Power Dissipation	Capacitance
		V _{RWM}	I _R at V _{RWM}	V _{BR}	at I _T	V _C	at I _{PP}	V _C at Max. I _{PP}	I _{PP}	P _{pk}	C _j
		Max. (V)	Max. (μA)	Min. (V)	(mA)	Typ. (V)	(A)	Max. (V)	Max. (A)	Max. (W)	Typ. (pF)
ESD5Z2V5	02	2.5	6	4	1	6.5	5	10.9	11	120	145
ESD5Z3V3	ZE	3.3	0.05	5	1	8.4	5	14.1	11.2	158	105
ESD5Z5V0	05	5	0.05	6.2	1	11.6	5	18.6	9.4	174	80
ESD5Z6V0	06	6	0.01	6.8	1	12.4	5	20.5	8.8	181	70
ESD5Z7V0	07	7	0.01	7.5	1	13.5	5	22.7	8.8	200	65
ESD5Z9V0	09	9	0.5	9	1	11.5	5	15	13.3	200	92
ESD5Z12	12	12	0.01	14.1	1	17	5	25	9.6	240	55

TRANSIENT VOLTAGE SUPPRESSOR For ESD Protection

Typical Characteristics

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	Max. Capacitance @ $V_R = 0$ and $f = 1$ MHz



Uni-Directional TVS

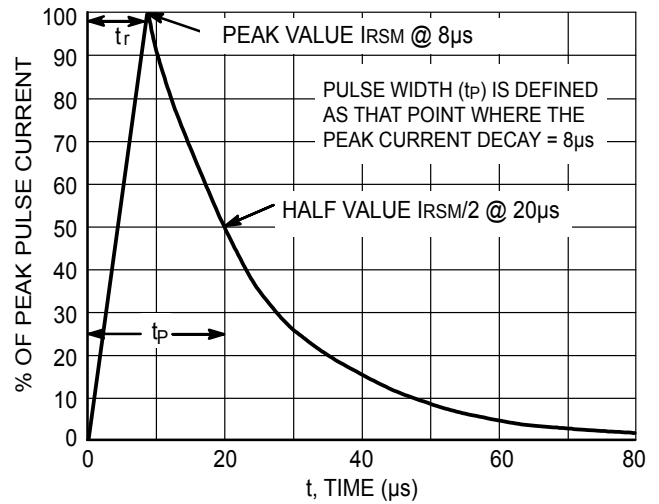
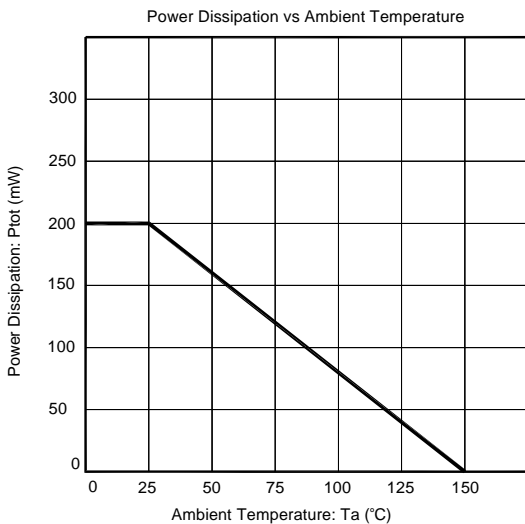
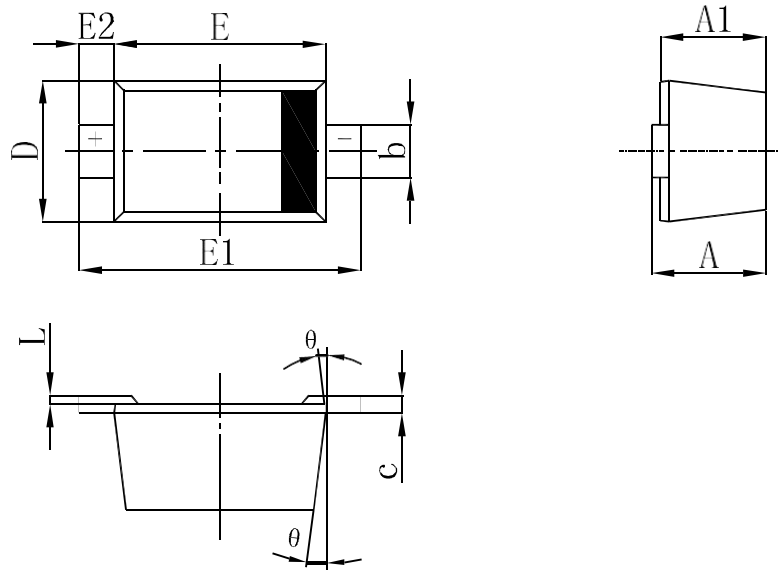


Fig.1 8 x 20 µs Pulse Waveform



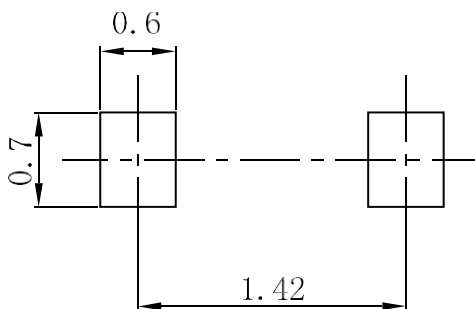
TRANSIENT VOLTAGE SUPPRESSOR For ESD Protection

SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.057	0.069
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7°REF		7°REF	

SOD-523 Suggested Pad Layout



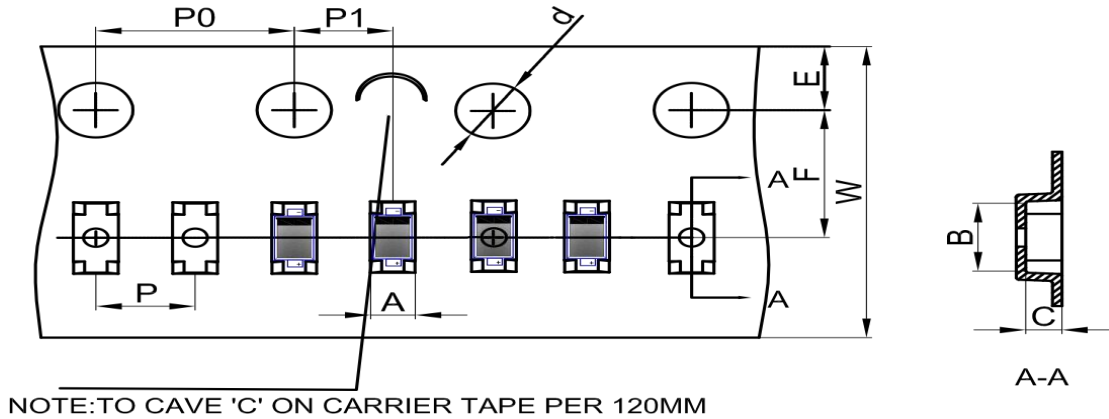
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

TRANSIENT VOLTAGE SUPPRESSOR For ESD Protection

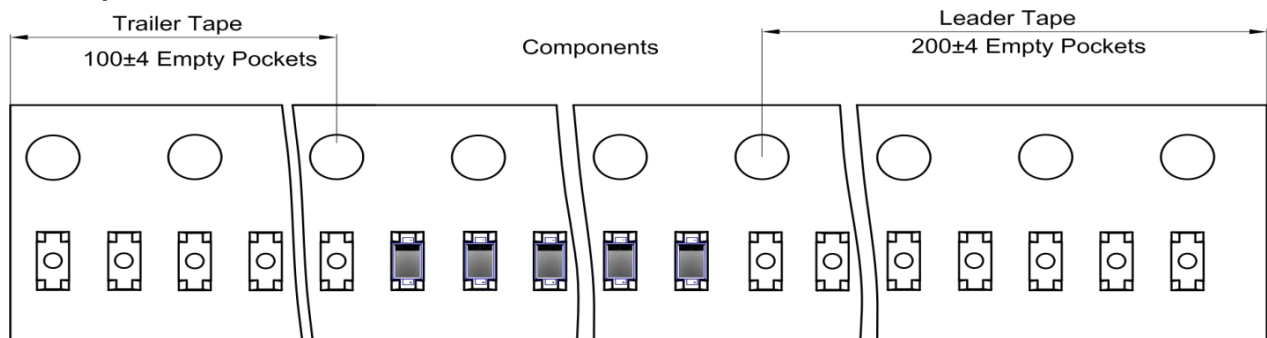
SOD-523 Tape and Reel

SOD-523 Embossed Carrier Tape

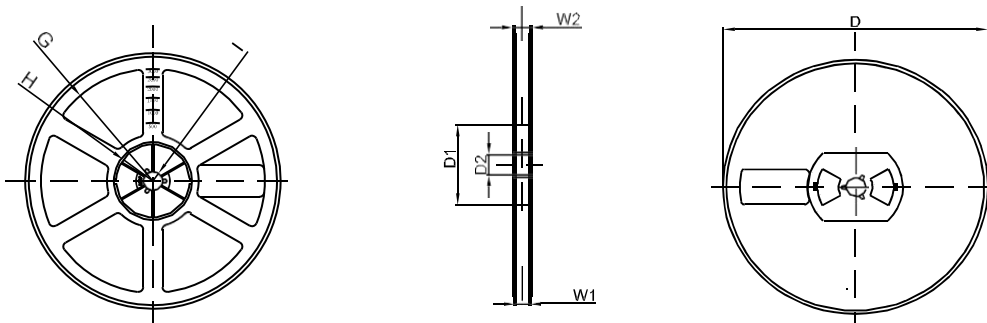


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-523	0.90	1.94	0.73	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOD-523 Tape Leader and Trailer



SOD-523 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1