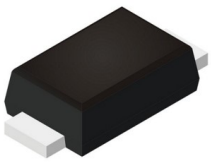
1-Line, Bi-directional, Transient Voltage Suppressors

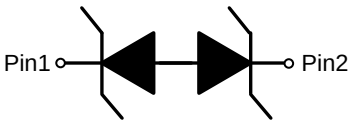


SOD-123FL

Descriptions

The SODA7F501TA is a transient voltage suppressor designed to protect power interfaces. It is suitable to replace multiple discrete components in portable electronics.

The SODA7F501TA is available in SOD-123FL package. Standard products are Pb-free and Halogen-free.



Circuit diagram

Features

- Stand-off voltage: 7.0V Max
- Transient protection for each line according to IEC61000-4-2 (ESD): ±30KV Air, ±30KV contact
- IEC61000-4-5 (Surge): 150A (8/20μs)
- Solid-state silicon technology

Order information

Device	Marking	Package	Shipping
SODA7F501TA		SOD-123FL	3000/Tape&Reel

Applications

- Power supply protection
- Power management

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power (tp = 8/20μs) Max	P_{pk}	2700	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	
Operating temperature	T_{OP}	-40~125	°C
Lead temperature	T_L	260	°C
Storage temperature	T_{STG}	-55~150	°C

Electrical characteristics (TA=25 °C ,unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				7.0	V
Reverse leakage current	I_R	V_{RWM} = 7.0V			150.0	μA
Reveres breakdown voltage	V_{BR}	I_T=1mA	7.7			V
Clamping voltage	V_C	Ipp=100A tp=8/20us		13.0		V
		Ipp=150A tp=8/20us		18.0		V
Junction capacitance	C_J	V_R = 0V, f = 1MHz		500		pF

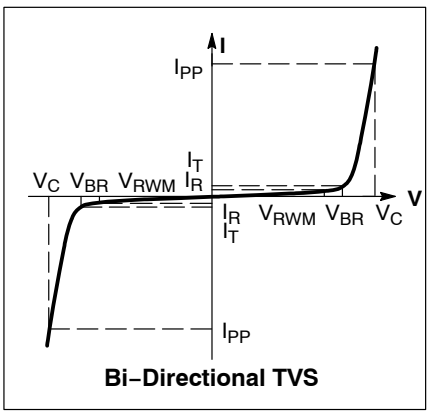
Electrical performance curve

V_C: Maximum clamping voltage

V_{br}: Reverse breakdown voltage

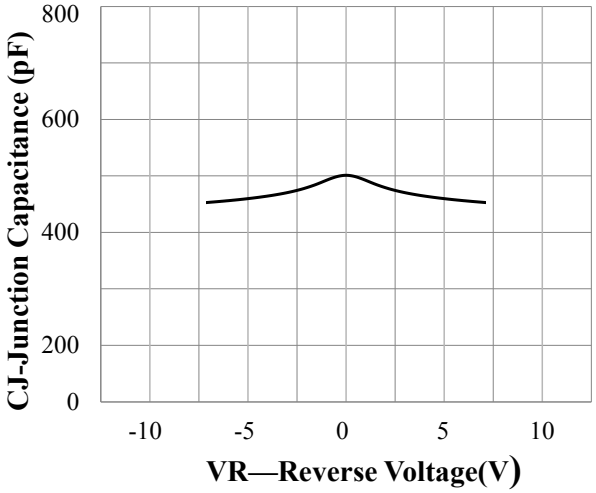
V_{RWM}: Working voltage

I_{PP}: Maximum peak current

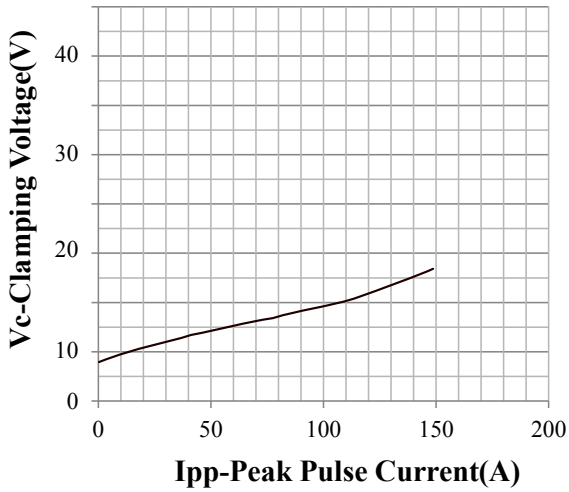


Bi-Directional TVS

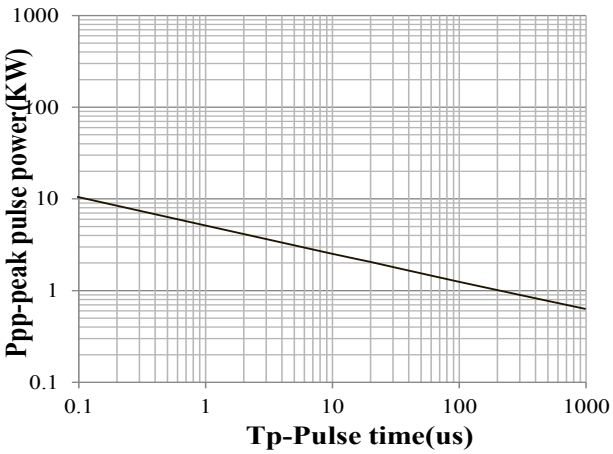
Typical characteristics (T_A=25°C, unless otherwise noted)



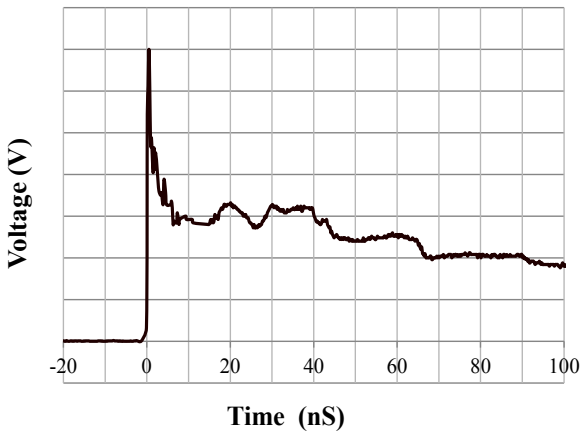
Junction Capacitance vs. Reverse Voltage



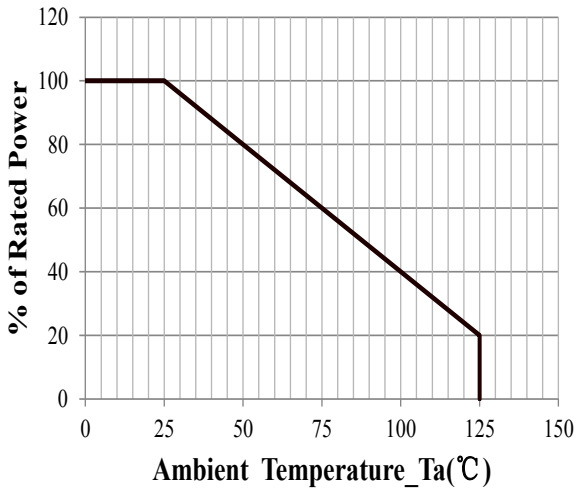
Clamping Voltage vs. Peak Pulse Current



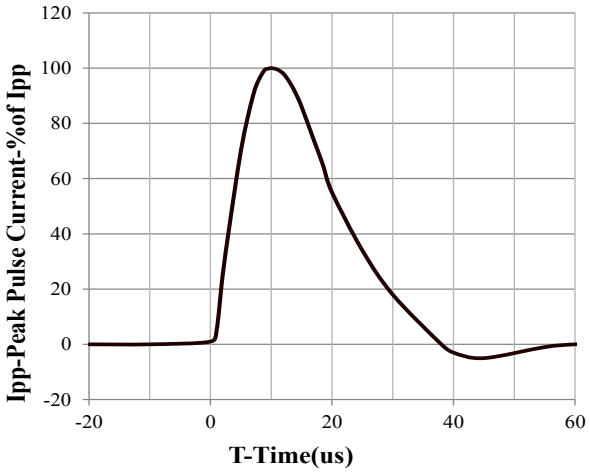
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform



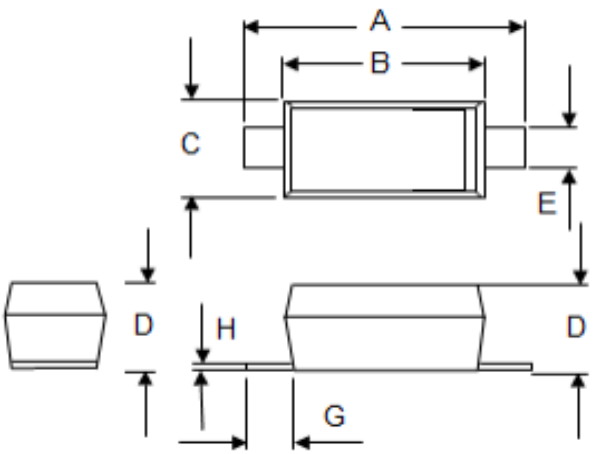
Power Derating Curve



8 X 20us Pulse Waveform

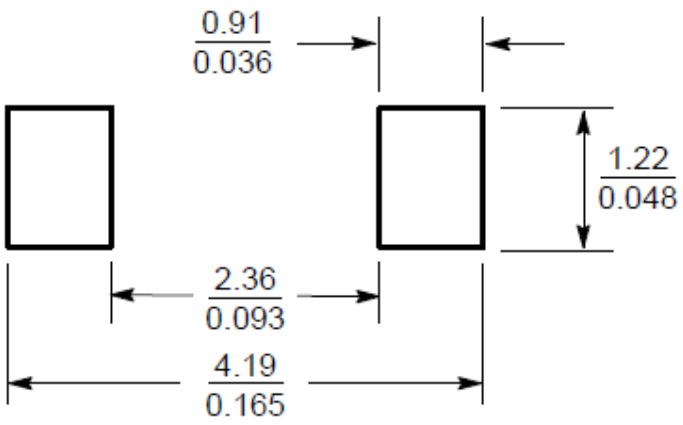
Package outline dimensions

SOD-123FL



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	3.4	3.7	3.95	0.142	0.148	0.155
B	2.5	2.7	2.90	0.098	0.106	0.114
C	1.4	1.7	1.95	0.055	0.066	0.077
D	0.8	1.0	1.20	0.031	0.040	0.048
E	0.5	0.80	1.10	0.020	0.031	0.043
G	0.25	—	—	0.010	—	—
H	—	—	0.20	—	—	0.008

Suggested Land Pattern



SCALE 10:1 $\left(\frac{mm}{inches}\right)$