

Discription

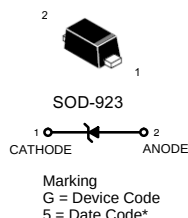
The PSD9X5.0ST5G is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, digital cameras and many other portable applications where board space is at a premium.

Applications

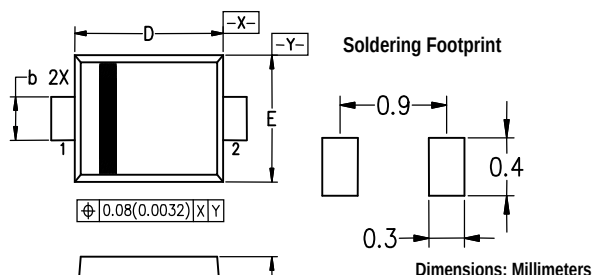
- Cellular phones audio
- Digital cameras
- Portable applications
- Mobile telephone

Features

- Small Body Outline Dimensions: 0.039 " x 0.024 " (1.0 mm x 0.60 mm)
- Low Body Height: 0.017 " (0.43 mm) Max
- Stand-off Voltage: 5 V
- Low Leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- These are Pb-Free Devices
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



SOD-923



Dim	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	0.36	0.40	0.43	0.014	0.016	0.017
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
He	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		±30 ±30	kV kV
Peak Pulse Power	PPK	100	W
Junction and Storage Temperature Range	TJ,TSTG	-55 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

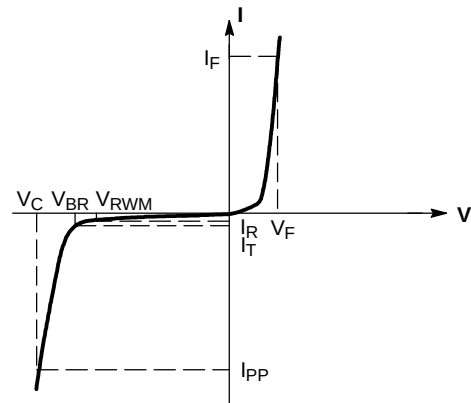
1. FR-5 = 1.0*0.75*0.62 in.

ESD9X5.0ST5G

ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted)

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	Capacitance @ $V_R = 0$ and $f = 1.0\text{ MHz}$



ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted, $V_F=0.9\text{V Max.}$ @ $I_F=10\text{Ma}$ for all types)

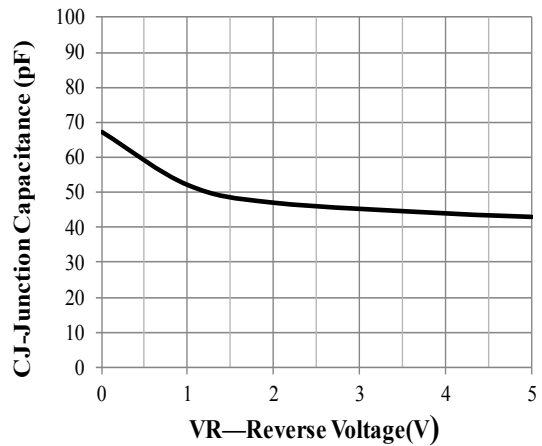
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				5	V
VBR	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	6	6.8	8	V
IR	Reverse Leakage Current	$VRWM = 5.0\text{ V}$			0.2	μA
VC	Clamping Voltage	$IPP = 1\text{ A (8/20}\mu\text{s)}$			9	V
VC	Clamping Voltage	$IPP = 8\text{ A (8/20}\mu\text{s)}$			12.5	V
Ipp	Peak Pulse Current	$t_p = 8/20\mu\text{s}$			8	A
CJ	Capacitance	$VR = 0\text{V, } f = 1\text{MHz}$		50	70	pF

Other voltage available upon request.

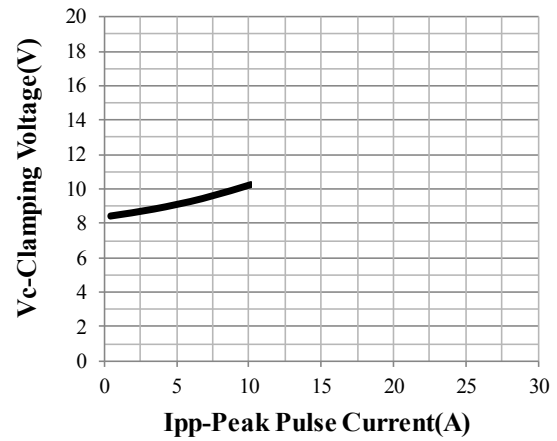
2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C

3. Surge current waveform per Figure 3.

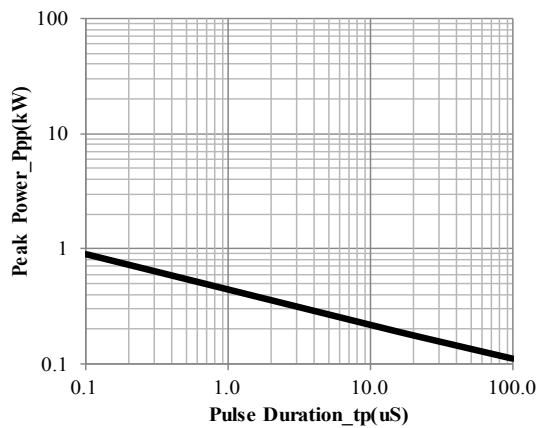
RATING AND VCHARACTERISTIC CURVES(ESD9X5.0ST5G)



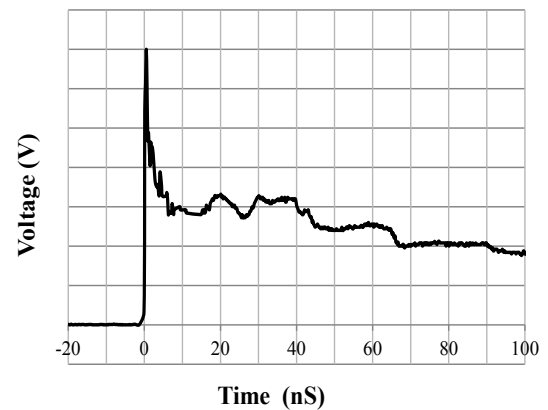
Junction Capacitance vs. Reverse Voltage



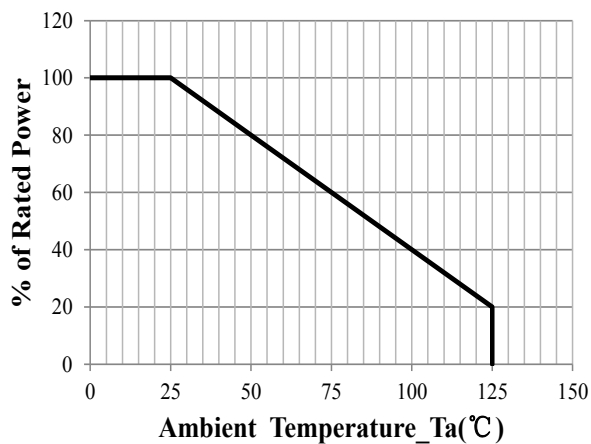
Clamping Voltage vs. Peak Pulse Current



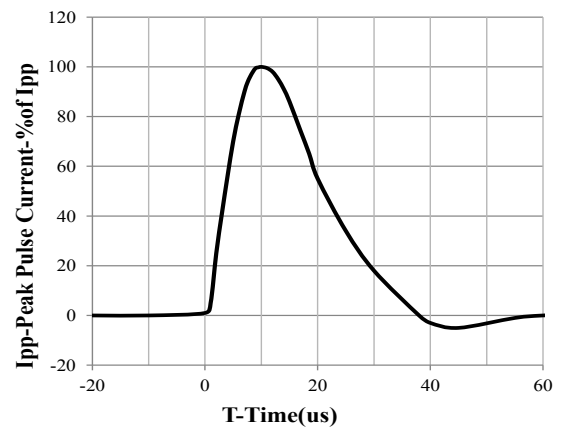
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



Power Derating Curve



8 X 20us Pulse Waveform