

DESCRIPTION

The ESD9D Series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

APPLICATIONS

- ✧ Cellular phones audio.
- ✧ MP3 players.
- ✧ 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: 3.3 V – 24 V.
- ✧ Low Leakage.
- ✧ Response Time is Typically < 1 ns.

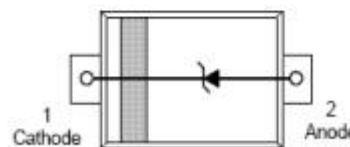
COMPLIES WITH THE FOLLOWING STANDARDS

- ✧ IEC61000-4-2.
- ✧ Level 4 15 kV (air discharge)
8 kV (contact discharge) .
- ✧ MIL STD 883E - Method 3015-7 Class 3
25 kV HBM (Human Body Model) .

SOD-923



PIN CONFIGURATION

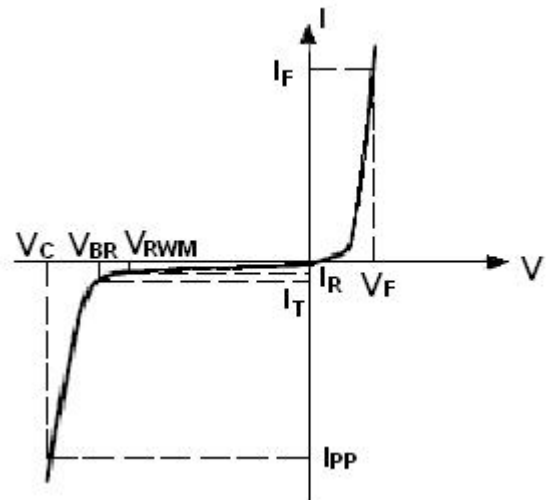


DEVICE CHARACTERISTICS

Maximum Ratings			
Symbol	Rating	Value	Unit
	IEC 61000-4-2 (ESD) Contact	8	kV
	ESD Voltage Per Human Body Model	25	kV
	Per Machine Model	400	V
P_D	Peak Pulse Power ($t_p = 8/20\mu s$) @ $T_A = 25^\circ C$	60	W
T_J, T_{STG}	Junction and Storage Temperature Range	-55 to 150	$^\circ C$
T_L	Lead Solder Temperature - Maximum (10 Second Duration)	260	$^\circ C$

ELECTRICAL PARAMETER

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}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



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)

Part Numbers	V_{BR}			I_T	V_{RWM}	I_R	V_F	I_F	C
	Min.	Typ.	Max.						
	V	V	V		V	μA	V		Typ. (Notel)
ESD9D3V3	5.0	5.7	6.4	2.5	3.0	1	1.25	10	40
ESD9D5V	6.2	6.8	7.6	1.0	5.0	1	1.25	10	25
ESD9D7V	7.5	8.1	8.6	1.0	7.0	1	1.25	10	25
ESD9D12V	13.5	14.2	15.0	1.0	12.0	1	1.25	10	15
ESD9D24V	22.8	24.0	26	5.0	24.0	0.5	1.25	10	8.5

1. Capacitance is measured at $f=1\text{MHz}$, $V_R=0\text{V}$, $T_A=25^\circ\text{C}$.

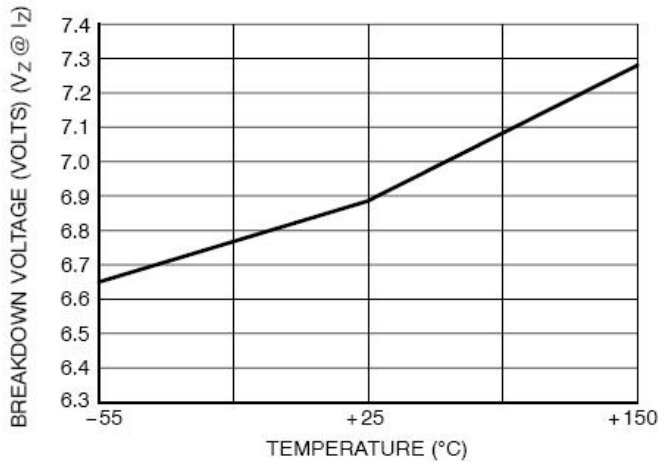
TYPICAL CHARACTERISTICS


Fig 1. Typical Breakdown Voltage versus Temperature

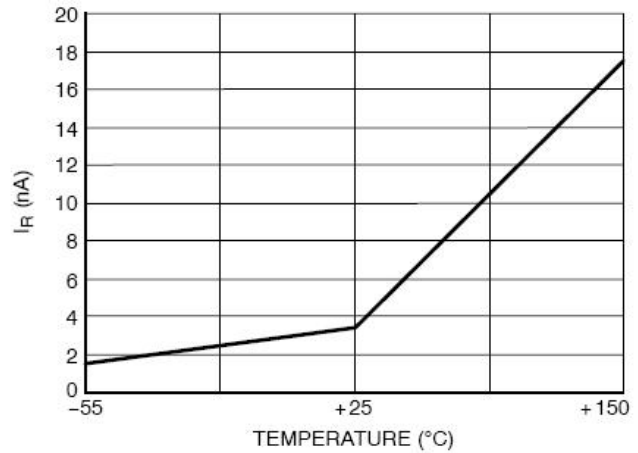


Fig 2. Typical Leakage Current versus Temperature

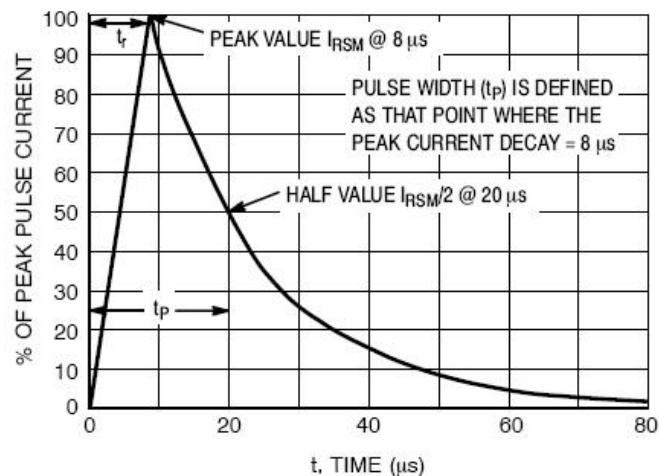


Fig 3. 8*20 μs Pulse Waveform

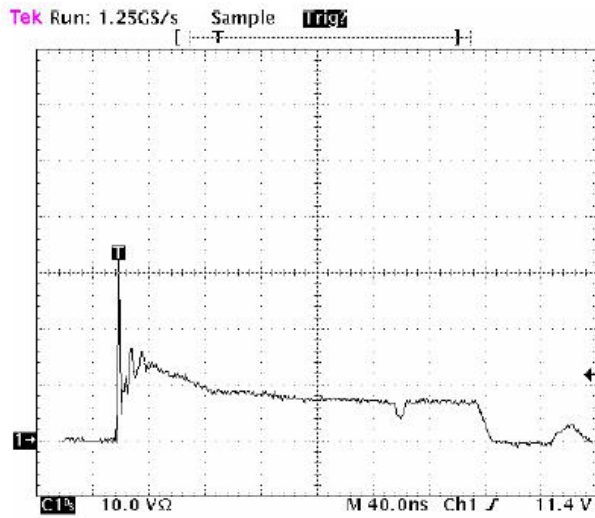


Fig 4. Positive 8kV contact per IEC

61000-4-2-ESD9D5V

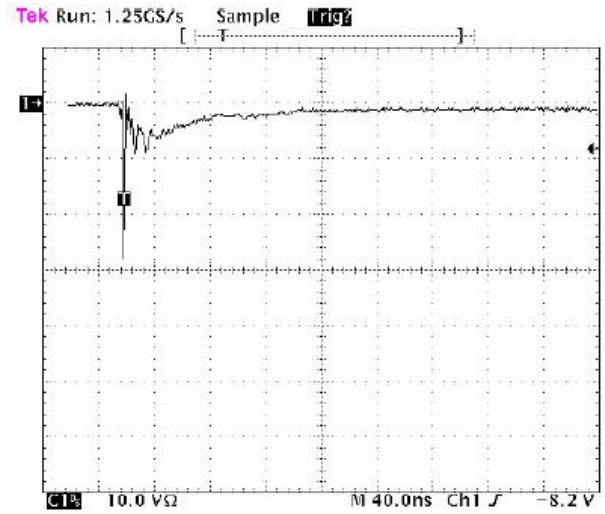
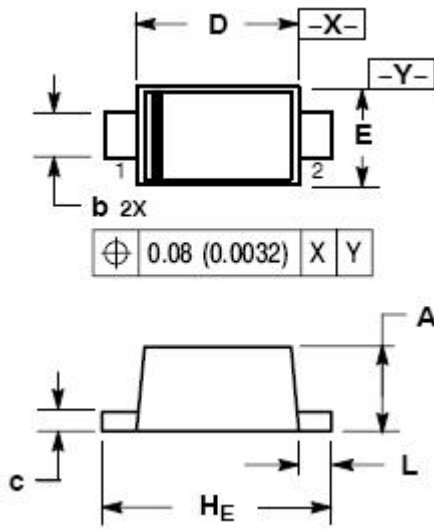


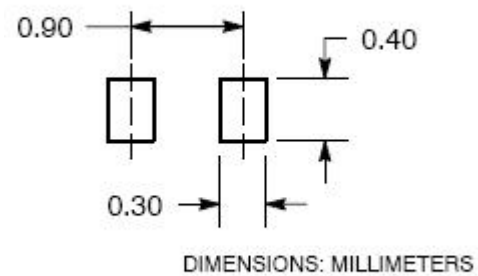
Fig 5. Negative 8kV contact per IEC

61000-4-2-ESD9D5V

SOD-923 MECHANICAL DATA



SOLDERING FOOTPRINT*



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
H _E	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

Website: <http://www.jksemi.com>

For additional information, please contact your local Sales Representative.

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