



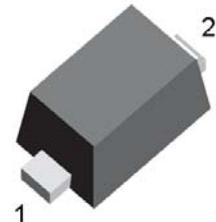
SHANGHAI SEMITECH SEMICONDUCTOR CO., LTD

ESD9B5V

ESD PROTECTION DIODE

Features

- Small SOD-923 Package
- Bi-directional Configurations
- Low Leakage
- Fast Response Time < 1 ns
- Protects One Power or I/O Port
- ESD Rating of Class 3 (>16KV) per Human Body Model
- ESD Protection to IEC 61000-4-2 Level 4
- EFT Protection to IEC 61000-4-4 Level 4
- RoHS Compliant in Lead-Free Versions



Applications



- Communication Systems & Cellular Phones
- Personal Digital Assistant (PDA)
- Digital Cameras
- Power Supplies

Absolute Maximum Ratings

Parameter	Symbol	Value	Units
IEC 61000-4-2 (ESD) Contact		± 8	kV
IEC 61000-4-2 (EFT)		40	A
Total Power Dissipation on FR-5 Board (Note 1) @ $T_A=25^\circ C$	P_D	150	mW
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	400	$^\circ C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ C$
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	$^\circ C$

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.

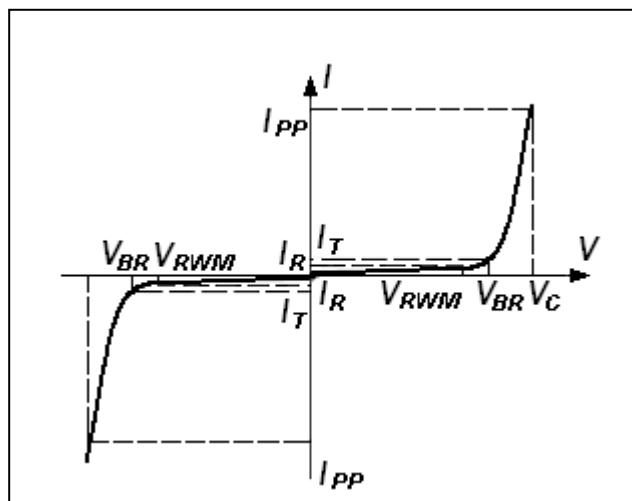
1. FR-5 = 1.0*0.75*0.62 in.

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Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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



Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Device	Device Marking	V_{RWM} (V)	I_R (uA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)		I_T (mA)	C (pF)
		Max	Max	Min	Max		
ESD9B5V		5.0	1.0	5.8	7.8	1.0	15

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

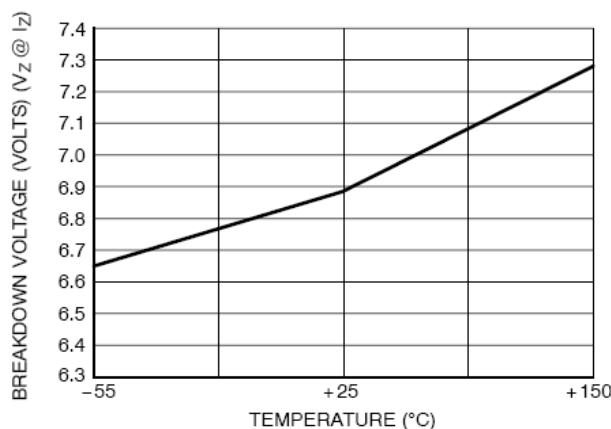


Figure 1. Typical Breakdown Voltage versus Temperature

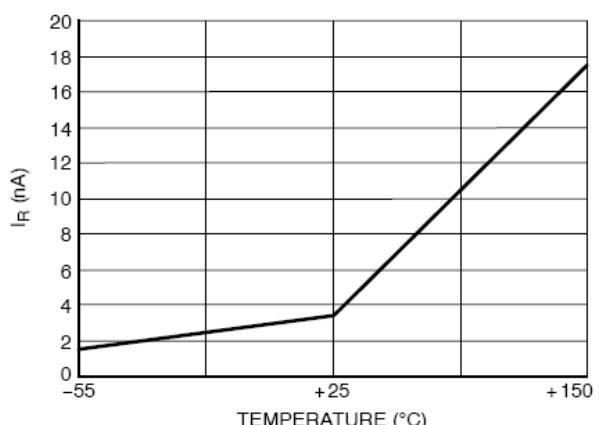


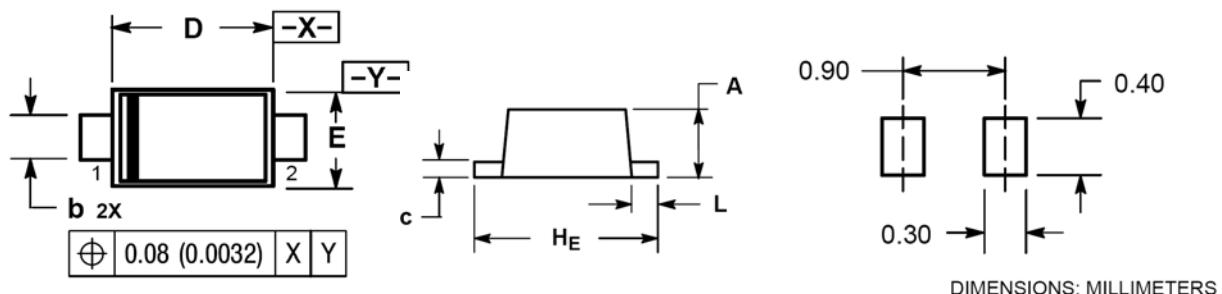
Fig 2. Typical Leakage Current versus Temperature

ESD9B5V

Package Dimensions

SOD-923

SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

DIM	MILLMETERS			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