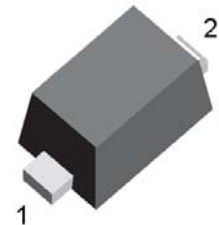




## ESD PROTECTION DIODE

### 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 <sub>A</sub> =25°C	P <sub>D</sub>	150	mW
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	400	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T <sub>L</sub>	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.

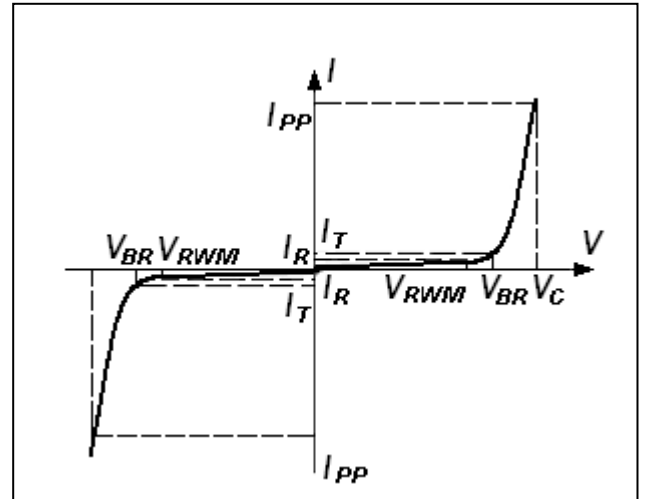
1. FR-5 = 1.0\*0.75\*0.62 in.

# ESD9B5V

## Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

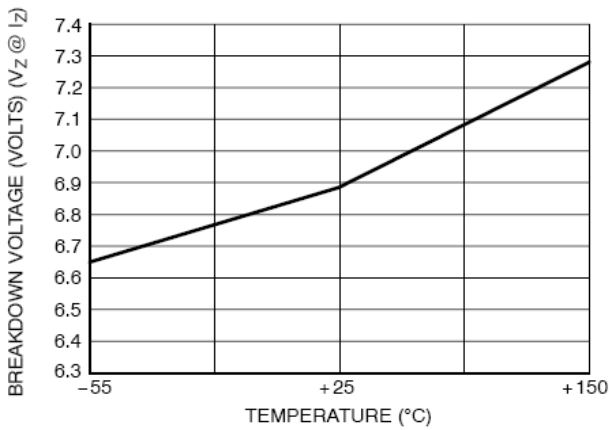
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



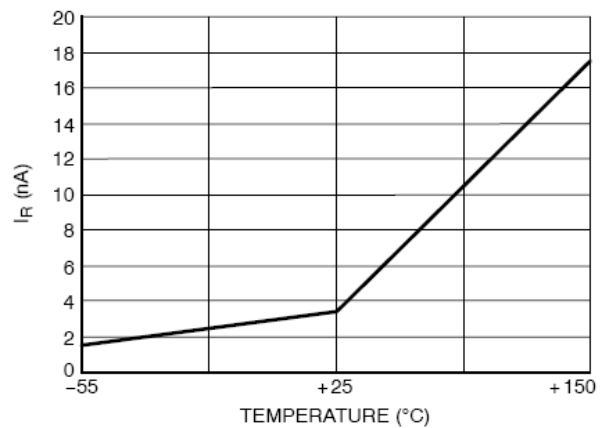
## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

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		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**



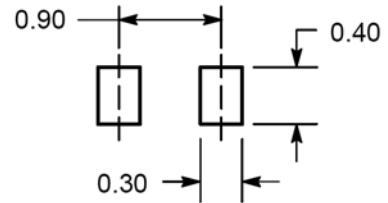
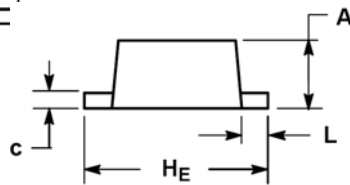
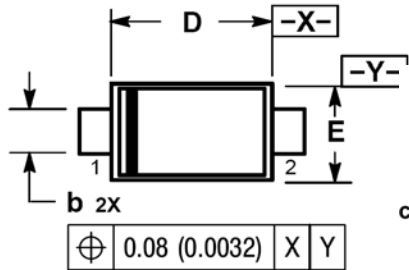
**Fig 2. Typical Leakage Current versus Temperature**

# 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 <sub>E</sub>	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