

### DESCRIPTION

The ESDB5.0CM9 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.

This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

### FEATURES

- ✧ IEC61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ Peak power dissipation: 60W (8/20 $\mu\text{s}$ )
- ✧ Protects one directional I/O line
- ✧ Low clamping voltage
- ✧ Working voltages : 5V
- ✧ Low leakage current

### MACHANICAL DATA

- ✧ SOD-923 package
- ✧ Terminals: Gold plated, solderable per MIL-STD-750, method 2026
- ✧ Packaging: Tape and Reel
- ✧ Reel size: 7 inch

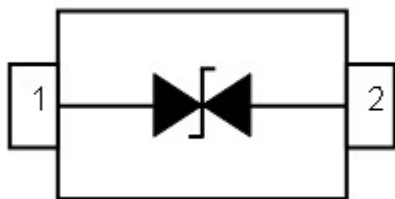
### ORDERING INFORMATION

- ✧ Device: ESDB5.0CM9
- ✧ Package: SOD-923
- ✧ Marking: 9C or C2
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 8,000pcs

### APPLICATIONS

- ✧ High Speed Data Line
- ✧ Serial and Parallel Ports
- ✧ Notebooks, Desktops, Servers
- ✧ Projection TV
- ✧ Cellular handsets and accessories
- ✧ Portable instrumentation
- ✧ Peripherals

### PIN CONFIGURATION



### PACKAGE OUTLINE



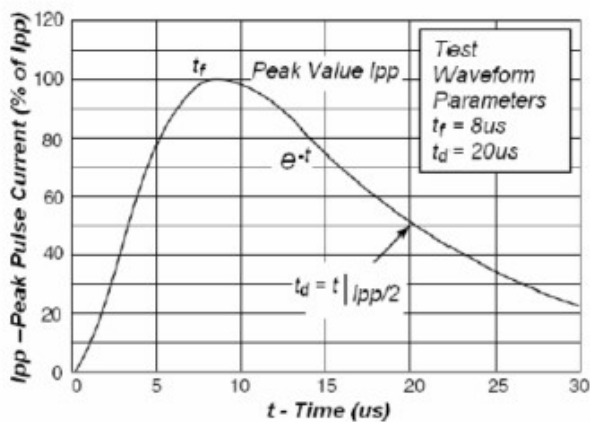
## ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$\pm 15$ $\pm 8$	kV
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	60	W
$T_{OPT}$	Operating Temperature	125	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55~150	$^{\circ}C$

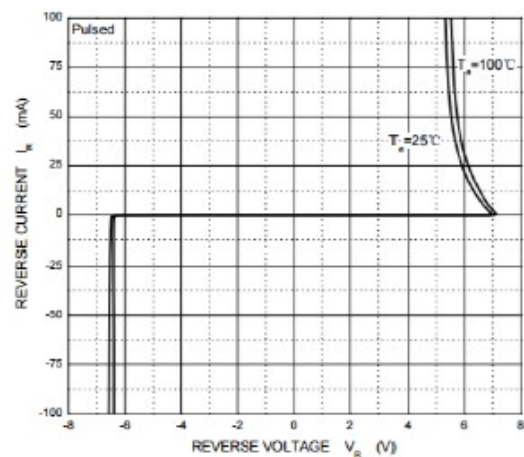
## ELECTRICAL CHARACTERISTICS (Tamb=25 $^{\circ}C$ )

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				5.0	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	5.6		8.2	V
$I_R$	Reverse Leakage Current	$V_{RWM} = 5V$			1.0	$\mu A$
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$			8.5	V
$V_C$	Clamping Voltage	$I_{PPmax} = 5A, t_p = 8/20\mu s$			12.0	V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$		13		pF

## ELECTRICAL CHARACTERISTICS CURVE

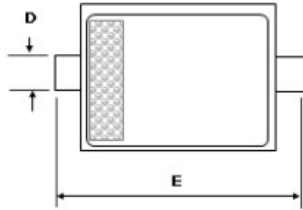
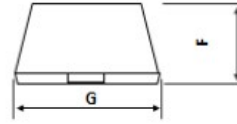
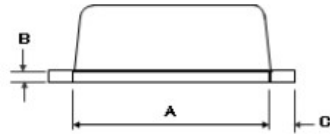


Pulse Waveform



Reverse Characteristics

## SOD-923 PACKAGE OUTLINE DIMENSIONS



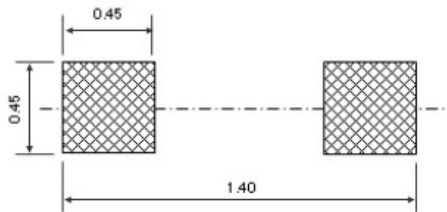
SOD923 \* Package Outline

### Dimensions

Unit	A	B	C	D	E	F	G
Max.	0.90	0.20	0.15	0.30	1.10	0.45	0.65
Min.	0.70	0.05	0.05	0.15	0.90	0.39	0.55

### Note:

1. Halogen free, EMC
2. Pb free solder
3. Lead thickness includes solder plating
4. Lead frame: Cu
5. Other Tolerance:  $\pm 0.05$
6. Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
7. Unit: mm



Land Pattern Recommendation