

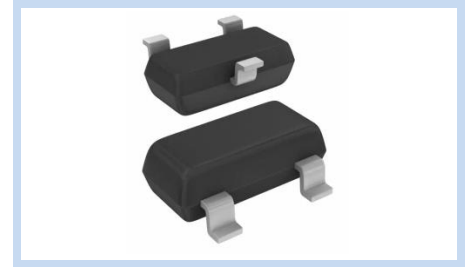
# ESD Suppressor 5V 2-Bidirectional SOT-23

ME52B9S23

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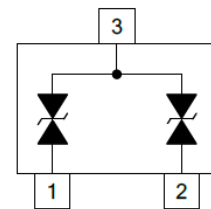
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 15\text{KV}$  (Air)  $\pm 8\text{KV}$  (Contact)
- IEC 61000-4-4 EFT: 40A (5/50ns)
- IEC 61000-4-5 Lightning: 3.5A (8/20 $\mu\text{s}$ )
- ESD Protection for two Bidirectional Channels
- Low Leakage Current, Maximum of 0.1 $\mu\text{A}$  at rated Voltage
- Low Clamping Voltage



## APPLICATION

- Digital Cameras
- Computer Interfaces Protection
- Notebook, Desktop and Servers
- Portable Devices
- Serial and Parallel Ports Protection



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	$V_{ESD}$	$\pm 30$	KV
ESD Voltage (Air discharge)		$\pm 30$	
Operating Temperature Range	$T_J$	-55~+125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55~+150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	$V_{RWM}$	--	--	5.00	V
Snap-Break Voltage	$I_{SB}=50\text{mA}$	$V_{SB}$	5.00	--	8.00	V
Reverse Leakage Current	$V_R=5.00\text{V}$	$I_R$	--	--	1.00	$\mu\text{A}$
Clamping Voltage	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$	$V_C$	--	--	9.00	V
	$I_{PP}=3.5\text{A}$ , $t_p=8/20\mu\text{s}$		--	--	12.50	
Clamping Voltage TLP	$I_{PP}=4\text{A}$ , $t_p=100\text{ns}$	$V_C$	--	8.60	--	V
	$I_{PP}=8\text{A}$ , $t_p=100\text{ns}$		--	9.70	--	
Dynamic Resistance	$t_p=100\text{ns}$	$R_{DYN}$	--	0.27	--	$\Omega$
Off State Junction Capacitance	$V_{dc}=0$ , Bias, $f=1\text{MHz}$	$C_J$	--	--	10	pF

Notes:

1.  $T_J=25^{\circ}\text{C}$  unless otherwise specified

2. Testing using Transmission Line Pulse (TLP) conditions:  $Z_0=50\Omega$ ,  $t_p=100\text{ns}$

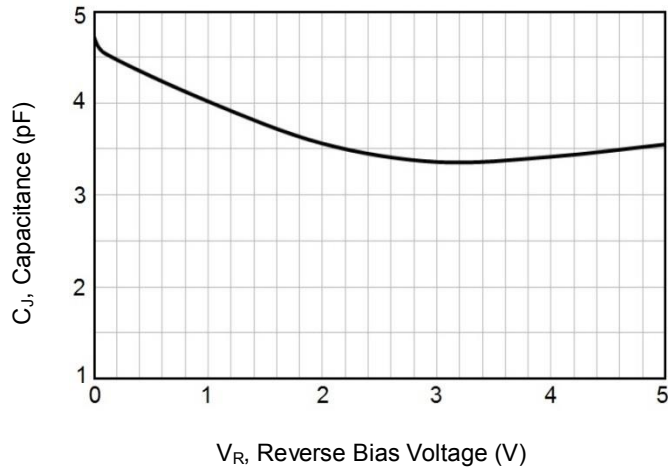
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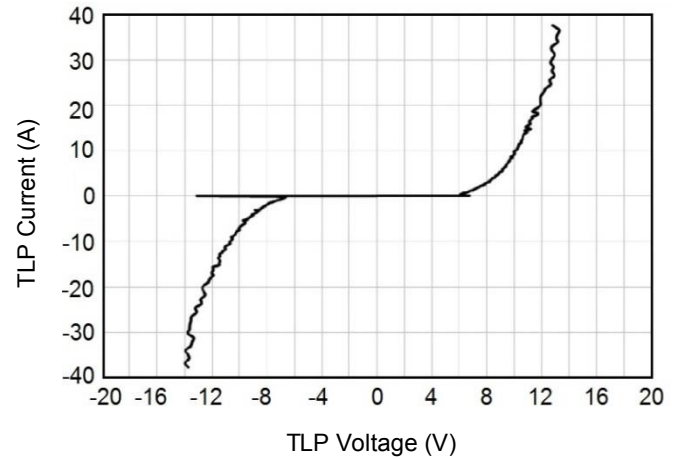
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## CHARACTERISTIC CURVES

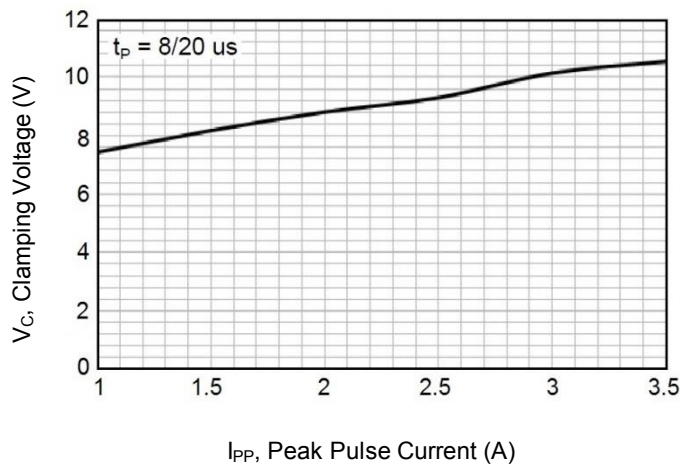
Typical Junction Capacitance



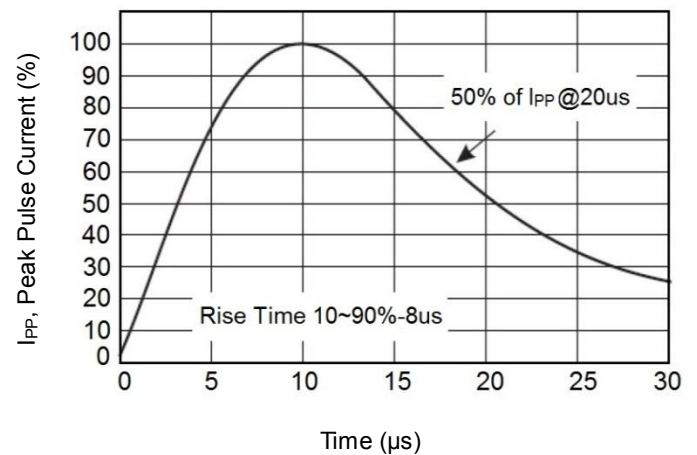
Transmission Line Pulsing



Typical Peak Clamping Voltage



Pulse Waveform



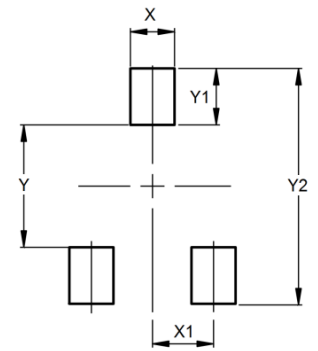
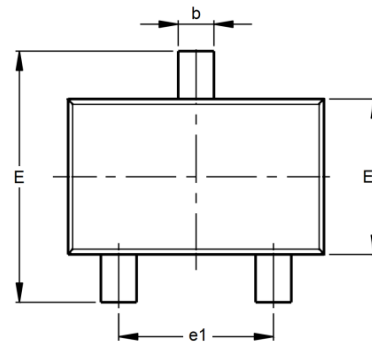
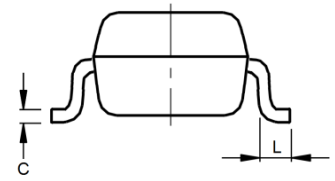
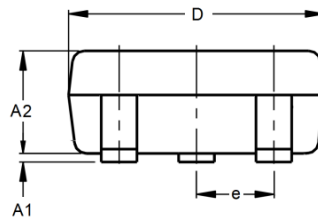
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## DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	0.08	0.20
A2	0.82	0.90
b	0.35	0.50
C	0.00	0.10
D	2.80	3.04
e	--	--
e1	1.80	2.00
E	2.20	2.60
E1	1.20	1.40
L	0.15	--
X	0.80	0.80
X1	1.35	1.35
Y	2.90	2.90
Y1	0.90	0.90
Y2	2.00	2.00



\*Specifications subject to change without notice.