

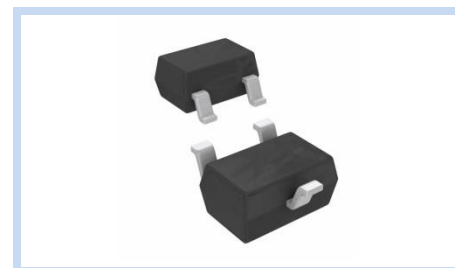
ESD Suppressor 5V 2-Bidirectional SOT-323

ME52B12V5S323T

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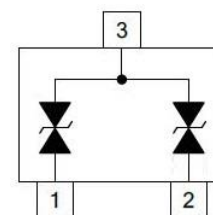
FEATURE

- 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 μs)
- ESD Protection for two Bidirectional Channels
- Low Clamping Voltage



APPLICATION

- HDMI Interface Protection
- USB 2.0 & Firewire Ports
- Infiniband Transceiver Protection
- GaAs Photodetector Protection
- RF/Antenna Circuits



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 30	KV
ESD Voltage (Air discharge)		± 30	
Typical Thermal Resistance	$R_{\theta JA}$	540	$^{\circ}\text{C}/\text{W}$
Operating & Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	--	V_{RWM}	--	--	5	V
Reverse Breakdown Voltage	$I_{SB}=50\text{mA}$	V_{SB}	5	--	8	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	0.1	μA
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	0.27	--	Ω
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	V_C	--	--	9	V
	$I_{PP}=3.5\text{A}, t_p=8/20\mu\text{s}$		--	--	12.5	
Clamping Voltage TLP	$I_{PP}=8\text{A}, t_p=100\text{ns}$	V_C	--	8.6	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	9.7	--	
Off State Junction Capacitance	$V_{dc}=0, \text{Bias}, f=1\text{MHz}$	C_J	--	--	6	pF

Note:

1. Testing using Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega, t_p=100\text{ns}$
2. $T_A=25^{\circ}\text{C}$ unless otherwise specified
3. Mounted on a FR4 PCB, Single-sided copper, mini pad

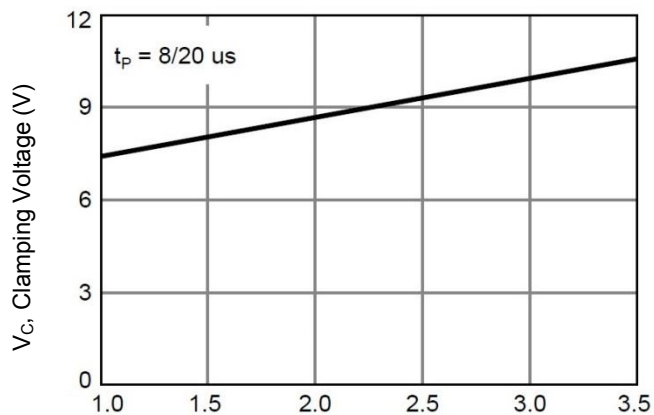
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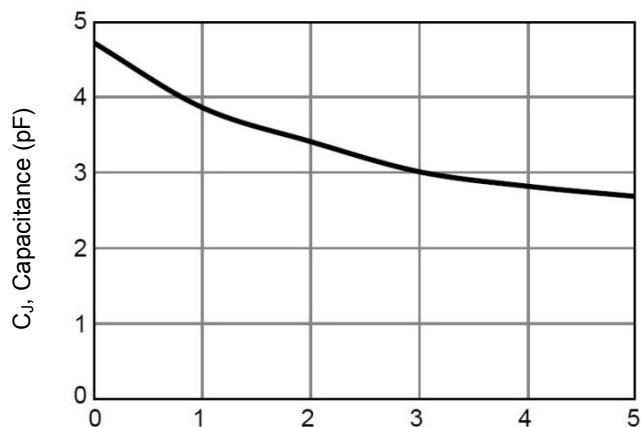
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CHARACTERISTIC CURVES

Typical Peak Clamping Voltage

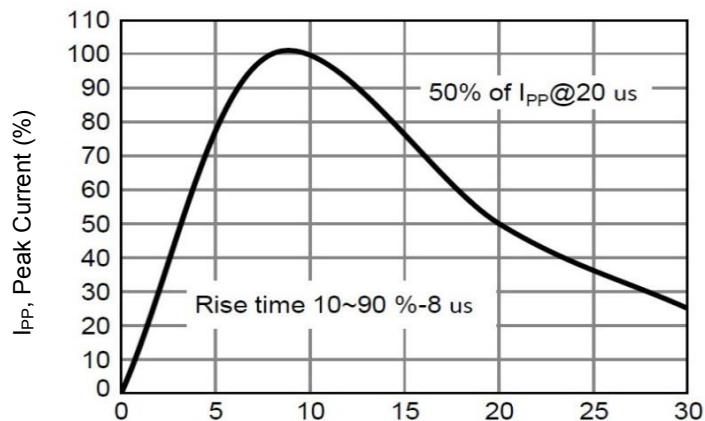


Typical Junction Capacitance

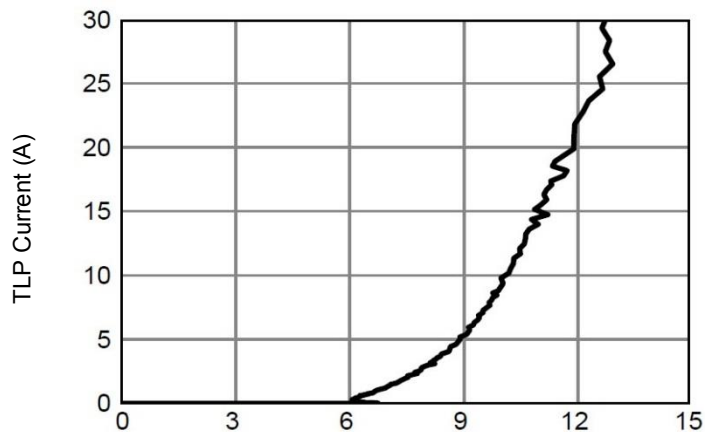


V_R , Reverse Bias Voltage (V)

Pulse Waveform



Transmission Line Pulsing



TLP Voltage (V)

ESD Suppressor

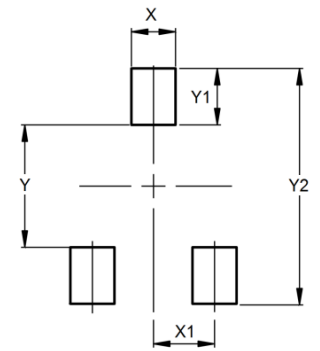
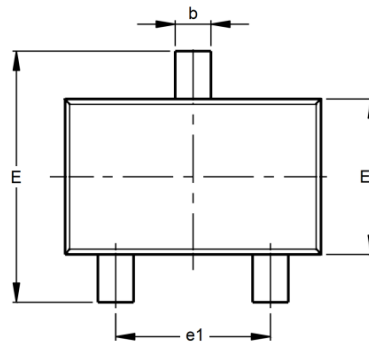
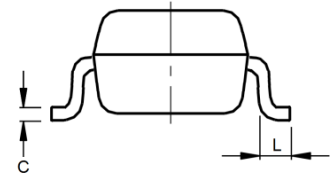
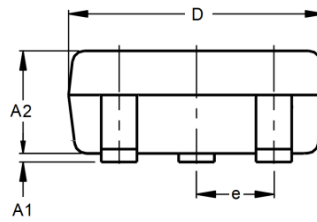
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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	-	0.10
A2	-	1.00
b	0.20	0.40
C	0.05	0.15
D	1.80	2.20
e	0.60	0.70
e1	1.20	1.40
E	2.00	2.20
E1	1.15	1.35
L	0.10	-
X	0.45	0.45
X1	0.65	0.65
Y	1.50	1.50
Y1	0.55	0.55
Y2	2.50	2.50



*Specifications subject to change without notice.