

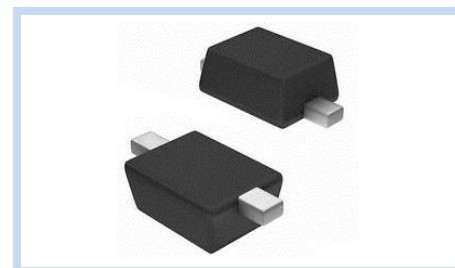
ESD Suppressor 5V Bidirectional SOD-323F

ME51B12V5S323F

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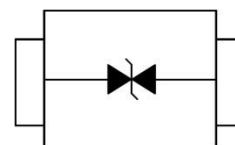
FEATURE

- 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 one Bidirectional Channel
- HBM $\geq \pm 8\text{KV}$ & CDM $\geq \pm 2\text{KV}$
- Low Clamping Voltage



APPLICATION

- Serial ATA Protection
- USB 2.0 and USB 3.0 Interface
- Digital Visual Interface (DVI)
- RF Interface
- 10/100/1000 Ethernet



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 30	KV
ESD Voltage (Air discharge)		± 30	
Typical Thermal Resistance	$R_{\theta JA}$	650	$^{\circ}\text{C}/\text{W}$
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
Snap-Break Voltage	$I_{SB}=50\text{mA}$	V_{SB}	5	--	8	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	0.1	μA
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	--	10	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	12	--	
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	0.25	--	Ω
Off State Junction Capacitance	$V_{dc}=0, \text{Bias}, f=1\text{MHz}$	C_J	--	--	6	pF

Notes:

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

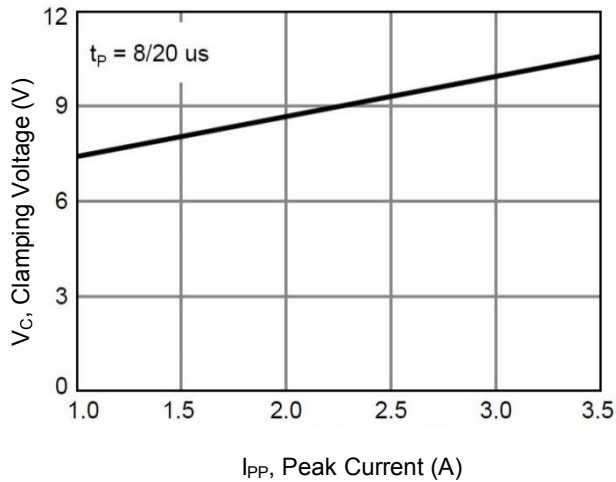
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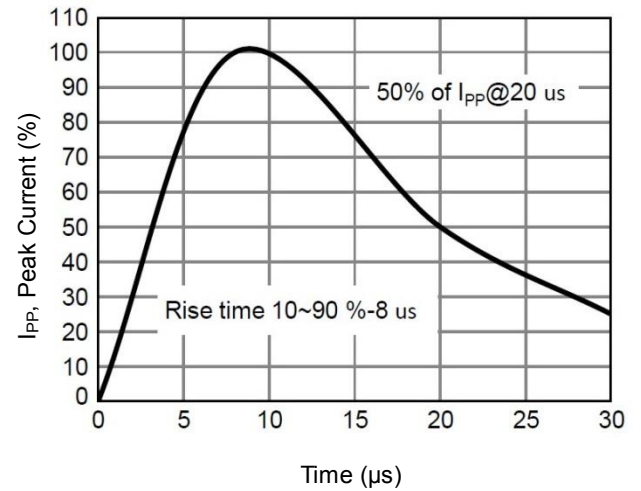
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CHARACTERISTIC CURVES

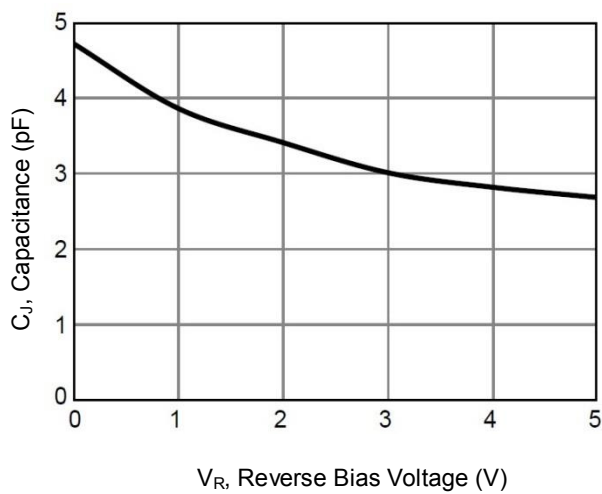
Typical Peak Clamping Voltage



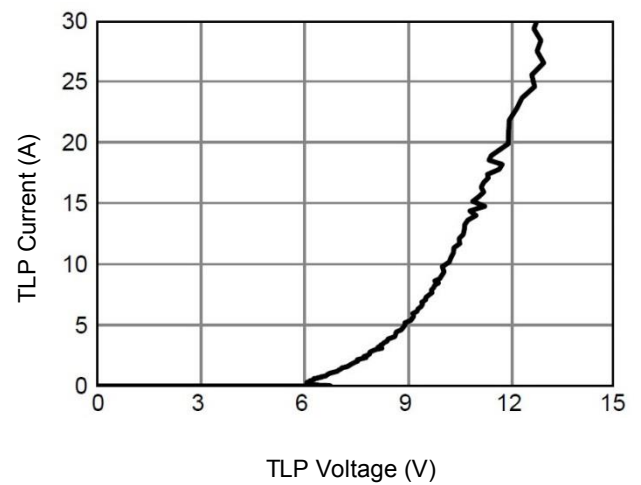
Pulse Waveform



Typical Junction Capacitance



Transmission Line Pulsing



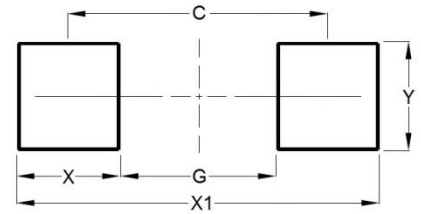
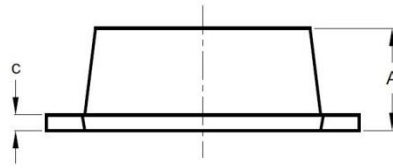
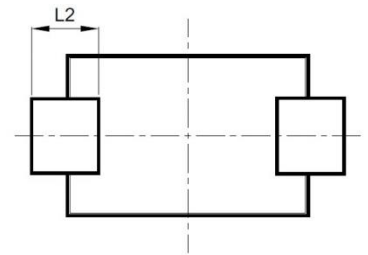
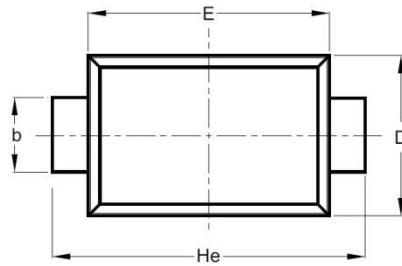
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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.70	0.90
b	0.25	0.35
C	0.05	0.15
D	1.15	1.35
E	1.75	1.95
He	2.30	2.70
L2	0.30	-
C	2.00	2.00
G	1.30	1.30
X	0.70	0.70
X1	2.70	2.70
Y	0.40	0.40



*Specifications subject to change without notice.