

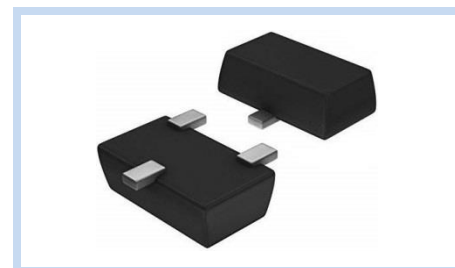
ESD Suppressor 5V 2-Bidirectional SOT-523F

ME52B12S523FT

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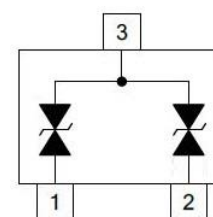
FEATURE

- IEC 61000-4-2 ESD: $\pm 15\text{KV}$ (Air) $\pm 8\text{KV}$ (Contact)
- IEC 61000-4-4 EFT: 20A (5/50ns)
- IEC 61000-4-5 Lightning: 2A (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}	± 8	KV
ESD Voltage (Air discharge)		± 15	
Typical Thermal Resistance	$R_{\theta JA}$	630	$^{\circ}\text{C/W}$
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	$I_{BR}=1\text{mA}$	V_{BR}	5.5	--	10	V
Reverse Leakage Current	$V_R=5\text{V}$	I_R	--	--	100	nA
Dynamic Resistance	$t_p=100\text{ns}$	R_{DYN}	--	0.2	--	Ω
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	V_C	--	--	12	V
	$I_{PP}=2\text{A}, t_p=8/20\mu\text{s}$		--	--	15	
Clamping Voltage TLP	$I_{PP}=8\text{A}, t_p=100\text{ns}$	V_C	--	12.1	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	13.7	--	
Off State Junction Capacitance	$V_{dc}=0, \text{Bias}, f=1\text{MHz}$	C_J	--	--	3.5	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

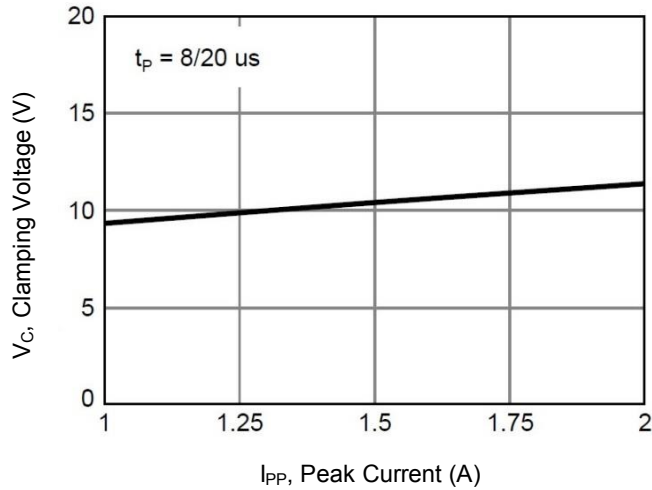
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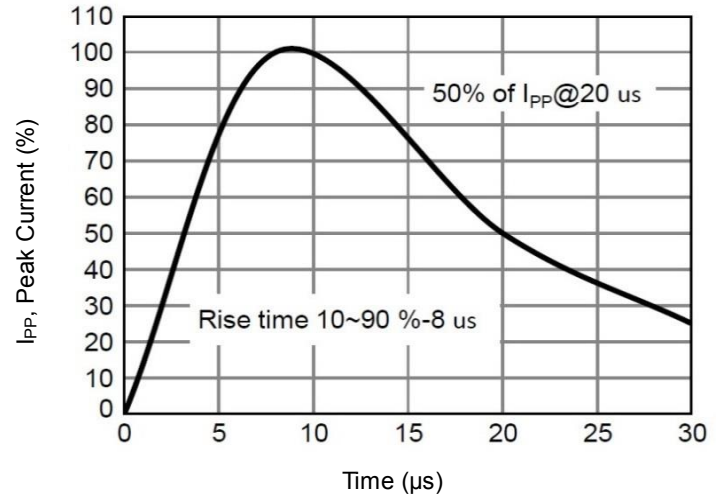
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CHARACTERISTIC CURVES

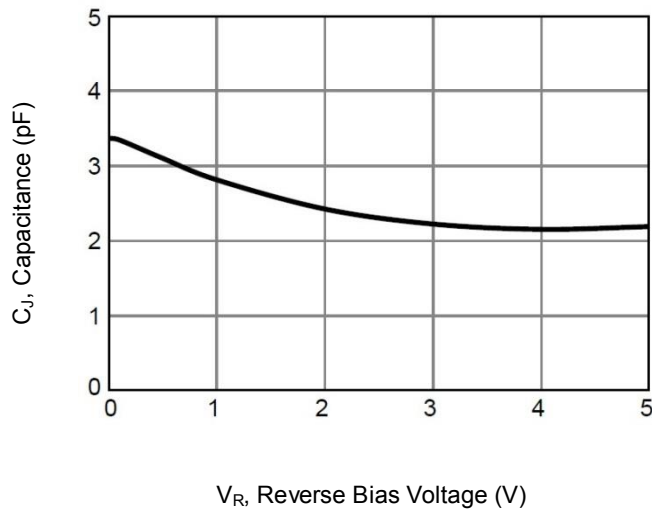
Typical Peak Clamping Voltage



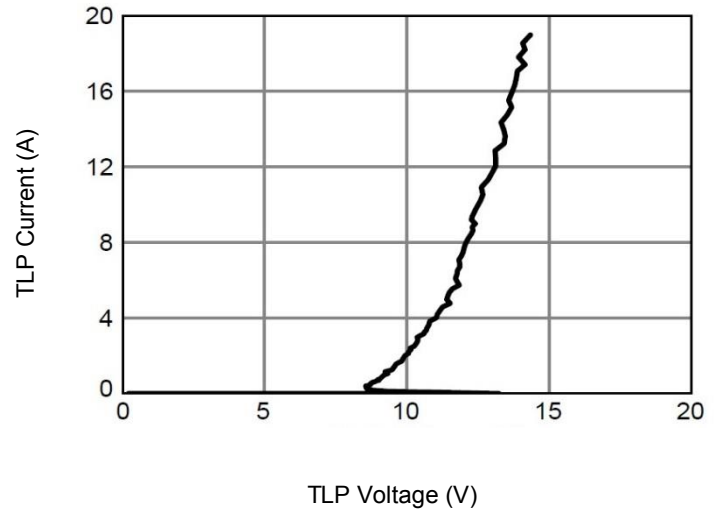
Pulse Waveform



Typical Junction Capacitance



Transmission Line Pulsing



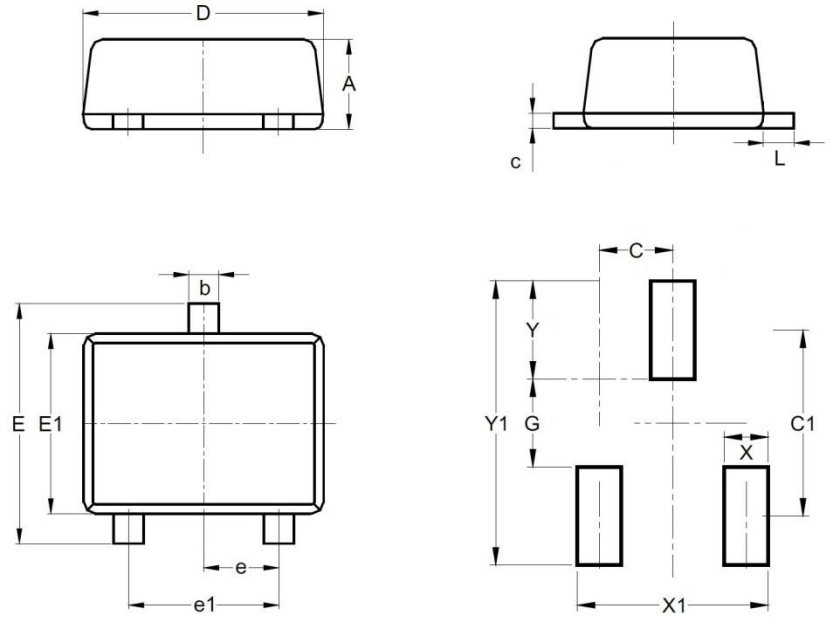
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DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.50	0.60
b	0.23	0.33
c	0.07	0.17
D	1.50	1.70
e	0.45	0.55
e1	0.90	1.10
E	1.50	1.70
E1	1.10	1.30
L	0.20	0.20
C	0.50	0.50
C1	1.45	1.45
G	0.90	0.90
X	0.40	0.40
X1	1.05	1.05
Y	0.55	0.55
Y1	2.00	2.00



*Specifications subject to change without notice.