

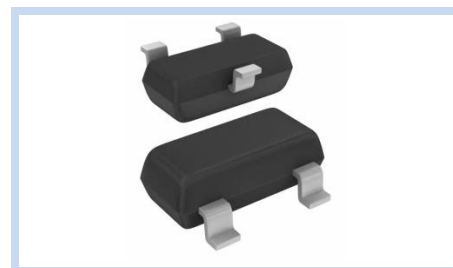
ESD Suppressor 5V 2-Bidirectional SOT-23

ME52B12V5S23

MERITEK

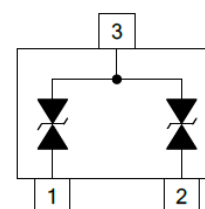
FEATURE

- 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

- Subscriber Identity Module (SIM) Card Protection
- Audio and Video Equipment
- High-Speed Data Lines
- Computers and Peripherals
- Communication Systems



MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	V_{ESD}	± 30	KV
ESD Voltage (Air discharge)		± 30	
Typical Thermal Resistance	$R_{\theta JA}$	350	$^{\circ}\text{C}/\text{W}$
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}	--	--	5.00	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	--	--	0.1	μA
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	$I_{PP}=8\text{A}, t_p=100\text{ns}$	V_C	--	10.00	--	V
	$I_{PP}=16\text{A}, t_p=100\text{ns}$		--	12.00	--	
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. $T_J=25^{\circ}\text{C}$ unless otherwise specified
2. Mounted on a FR4 PCB, Single-Sided Copper, Mini Pad
3. Testing using Transmission Line Pulse (TLP) conditions: $Z_0 = 50\Omega, t_p = 100\text{ns}$

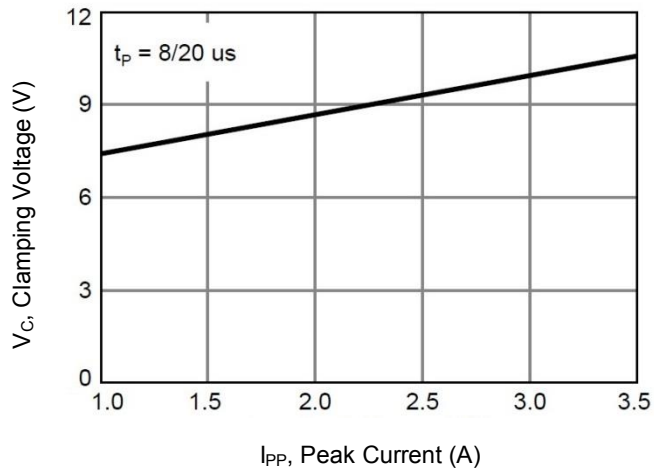
ESD Suppressor 5V 2-Bidirectional SOT-23

ME52B12V5S23

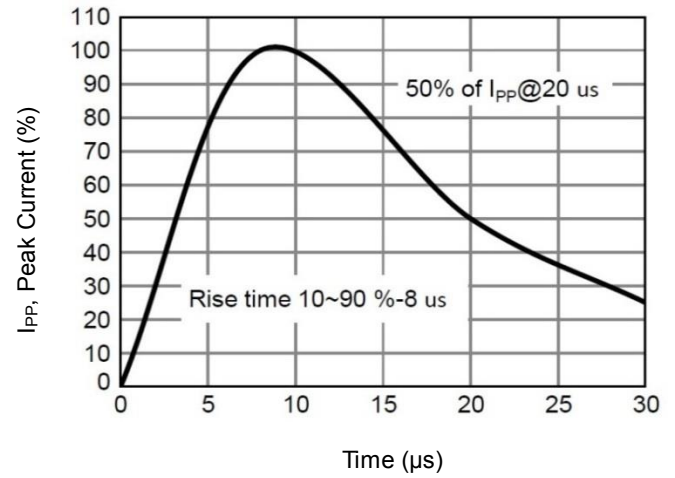
MERITEK

CHARACTERISTIC CURVES

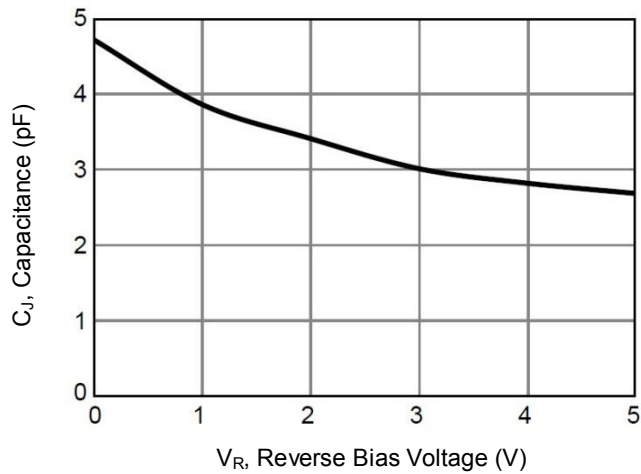
Typical Peak Clamping Voltage



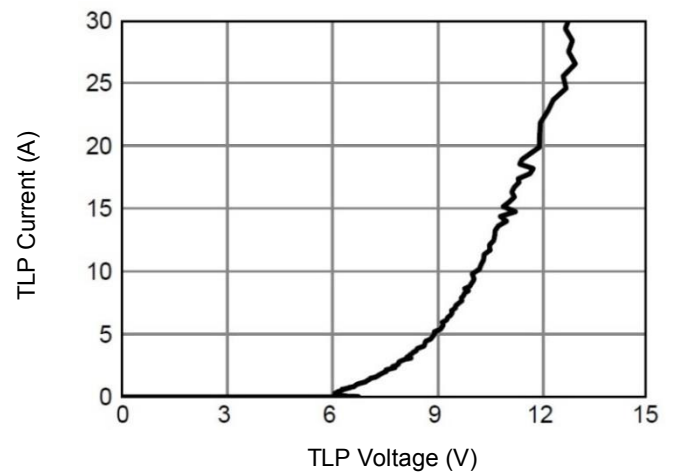
Pulse Waveform



Typical Junction Capacitance



Transmission Line Pulsing



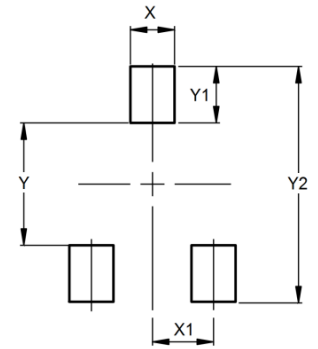
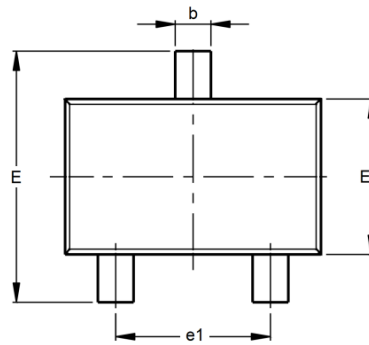
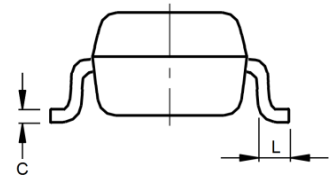
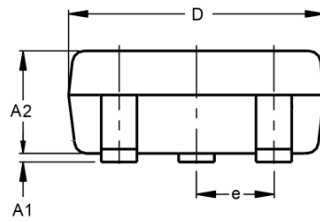
ESD Suppressor 5V 2-Bidirectional SOT-23

ME52B12V5S23

MERITEK

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.