

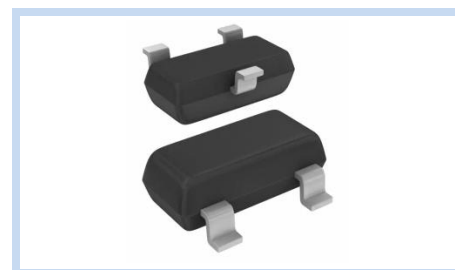
# ESD Suppressor 5V 2-Unidirectional SOT-23

ME52U10S23

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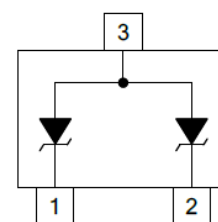
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 20\text{KV}$  (Air)  $\pm 15\text{KV}$  (Contact)
- IEC 61000-4-4 EFT: 40A (5/50ns)
- IEC 61000-4-5 Lightning: 4A (8/20 $\mu\text{s}$ )
- ESD Protection for two Unidirectional Channels
- Low Clamping Voltage and Leakage Current
- Ultra Low Capacitance



## APPLICATION

- Digital Cameras
- Control Signal Lines Protection
- Computer Interfaces Protection
- Portable Devices
- USB 3.0 Data Line Protection



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	$V_{ESD}$	$\pm 15$	KV
ESD Voltage (Air discharge)		$\pm 20$	
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	$I_{BR}=1\text{mA}$	$V_{BR}$	5.50	--	--	V
Reverse Leakage Current	$V_R=5.00\text{V}$	$I_R$	--	--	50	nA
Clamping Voltage	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$ , Any I/O Pins to GND	$V_C$	--	--	10	V
	$I_{PP}=4\text{A}$ , $t_p=8/20\mu\text{s}$ , Any I/O Pins to GND		--	--	15	
Clamping Voltage TLP	$I_{PP}=8\text{A}$ , $t_p=100\text{ns}$ , Any I/O Pins to GND	$V_C$	--	16.00	--	V
	$I_{PP}=16\text{A}$ , $t_p=100\text{ns}$ , Any I/O Pins to GND		--	23.50	--	
Dynamic Resistance	$t_p=100\text{ns}$	$R_{DYN}$	--	0.94	--	$\Omega$
Off State Junction Capacitance	$V_{dc}=2.5$ , Bias, $f=1\text{MHz}$ , Any I/O Pins to GND	$C_J$	--	0.30	0.35	pF
	$V_{dc}=2.5$ , Bias, $f=1\text{MHz}$ , Between any I/O Pins		--	0.20	--	

Notes:

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

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

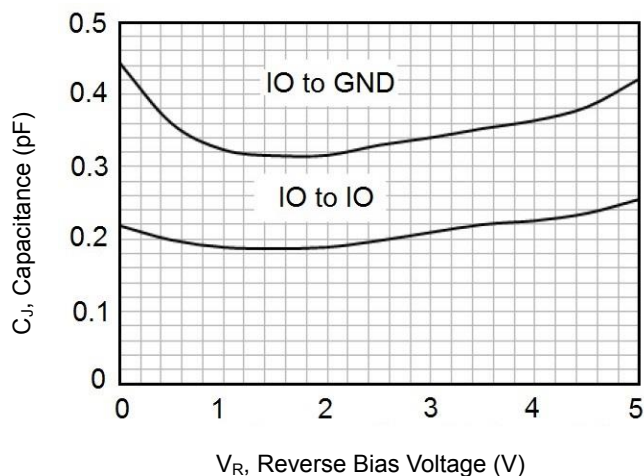
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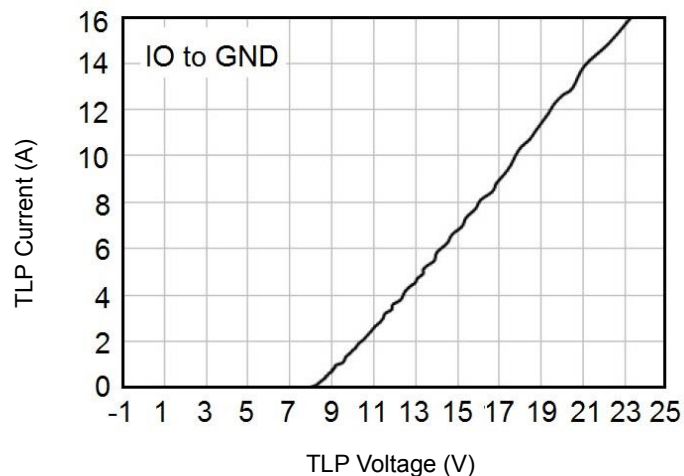
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## CHARACTERISTIC CURVES

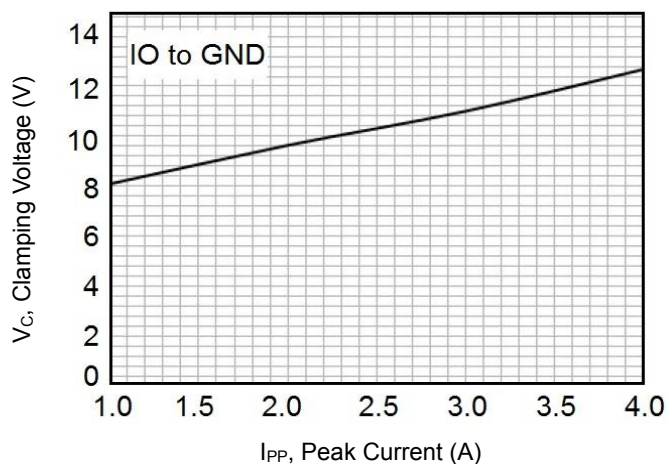
Typical Junction Capacitance



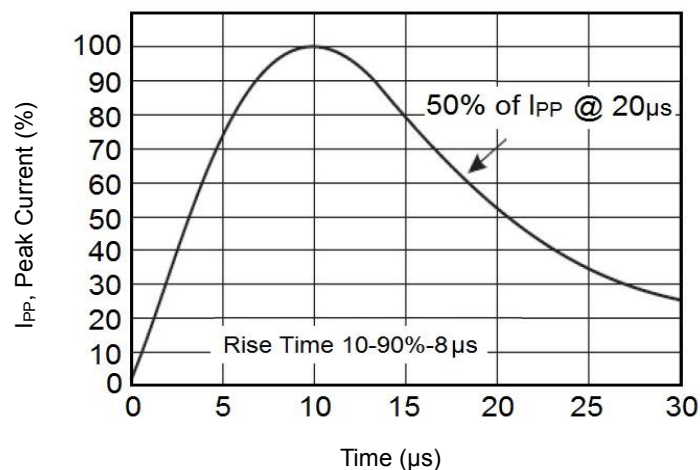
Transmission Line Pulsing



Typical Peak Clamping Voltage



Pulse Waveform



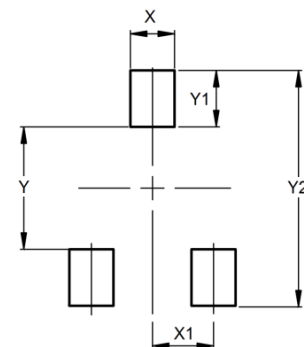
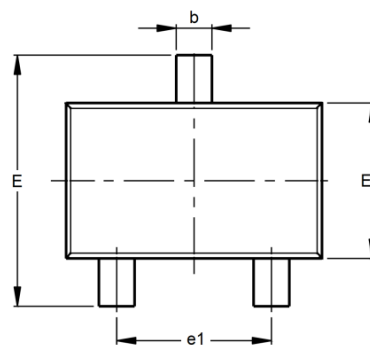
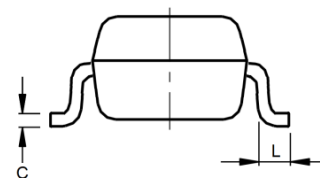
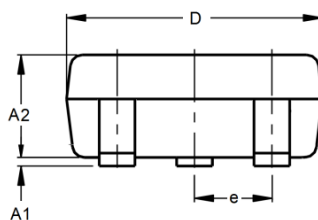
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## DIMENSIONS AND RECOMMENDED LAND PATTERN

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.