

# ESD Suppressor AEC-Q101 5V 2-Unidirectional SOT-143

ME52U25S143A

MERITEK

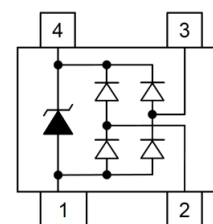
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 30\text{KV}$  (Air)  $\pm 30\text{KV}$  (Contact)
- ESD Protection for two Unidirectional Channels
- Low Leakage Current and Clamping Voltage
- Solid-State Silicon-Avalanche Technology
- AEC-Q101 Qualified



## APPLICATION

- USB Power And Data Line Protection
- Video Line Protection
- LAN/WAN Device
- Microcontroller Input Protection
- Portable Devices



## MAXIMUM RATINGS AND CHARACTERISTICS

Parameter	Symbol	Value	Unit
ESD Voltage (Contact discharge)	$V_{ESD}$	$\pm 30$	KV
ESD Voltage (Air discharge)		$\pm 30$	
Peak Pulse Current ( $t_p=8/20\mu s$ )	$I_{PP}$	12	A
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	$I_{BR}=1\text{mA}$	$V_{BR}$	6	--	--	V
Reverse Leakage Current	$V_R=5\text{V}$	$I_R$	--	--	5	$\mu\text{A}$
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu s$	$V_C$	--	--	9.8	V
	$I_{PP}=12\text{A}, t_p=8/20\mu s$		--	--	25	
Off State Junction Capacitance	$V_{dc}=0, f=1\text{MHz}$ , Between I/O pins and GND	$C_J$	--	1.5	3	pF

Notes:

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

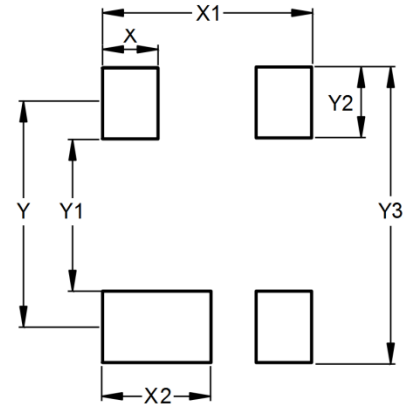
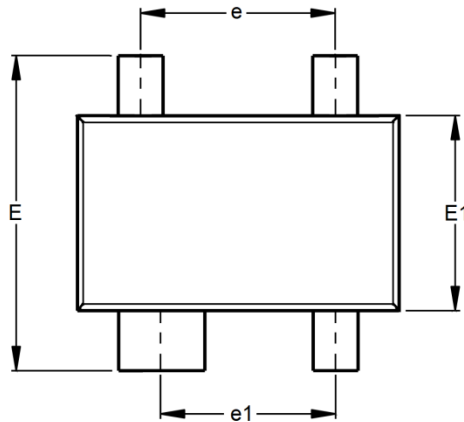
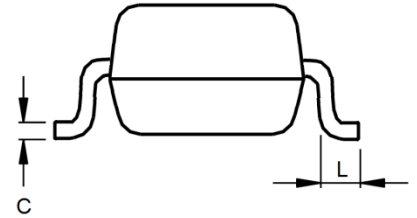
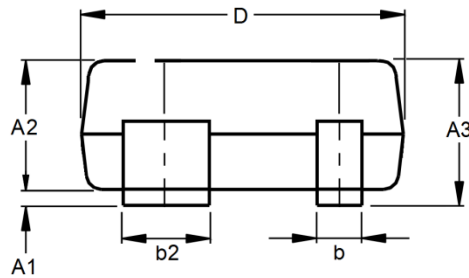
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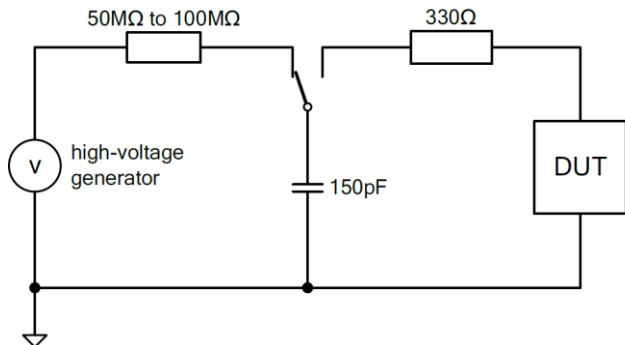
## DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A1	-	0.13
A2	-	1.14
A3	-	1.27
b	0.36	0.50
b2	0.76	0.93
C	0.08	0.15
D	2.79	3.04
e	1.90	1.90
e1	1.70	1.70
E	-	2.50
E1	1.19	1.40
L	0.15	-
Y	2.00	2.00
Y1	1.30	1.30
Y2	0.70	0.70
Y3	2.70	2.70
X	0.60	0.60
X1	2.50	2.50
X2	1.00	1.00

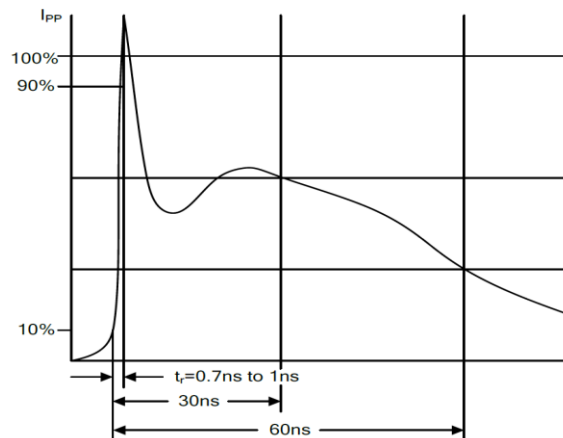


## ESD PROTECTION STANDARDS

### IEC61000-4-2

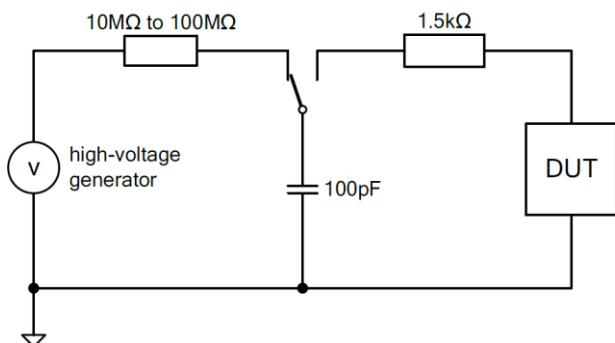


Test Circuit according to IEC61000-4-2

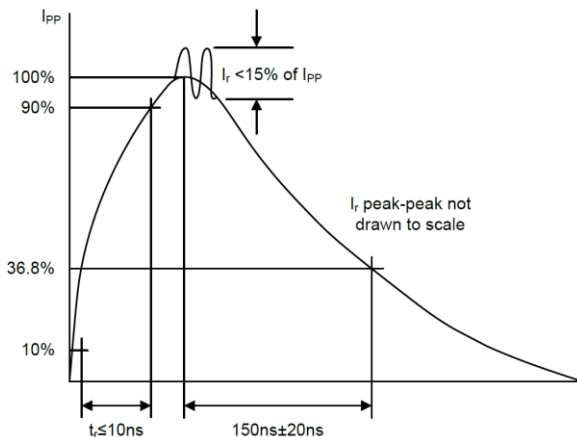


ESD Surge according to IEC61000-4-2

### Human Body Model (HBM, 883E method 3015.7)



Test Circuit according to MIL-883E method 3015.7



ESD Surge according to MIL-883E method 3015.7

\*Specifications subject to change without notice.