

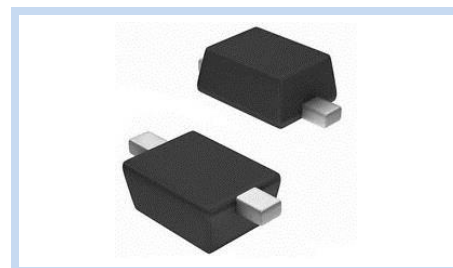
# ESD Suppressor AEC-Q101 5V Bidirectional SOD-323F

ME51B14V5S323FA

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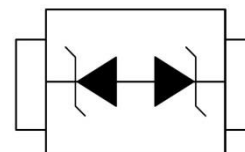
## FEATURE

- IEC 61000-4-2 ESD:  $\pm 15\text{KV}$  (Air)  $\pm 8\text{KV}$  (Contact)
- IEC 61000-4-5 Lightning: 24A (8/20 $\mu\text{s}$ )
- ESD Protection for One Bidirectional Channel
- Low Clamping Voltage
- Solid-State Silicon-Avalanche Technology
- AEC-Q101 Qualified



## APPLICATION

- Personal Digital Assistants (PDAs)
- 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)	$V_{ESD}$	$\pm 8$	KV
ESD Voltage (Air discharge)		$\pm 15$	
Peak Pulse Power (tp=8/20 $\mu\text{s}$ )	$P_{PP}$	350	W
Lead Soldering Temperature (10 Seconds)	$T_L$	260	$^{\circ}\text{C}$
Operating Temperature Range	$T_J$	-55~+125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-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	$I_{BR}=1\text{mA}$	$V_{BR}$	6.37	--	7.04	V
Reverse Leakage Current	$V_R=5\text{V}$	$I_R$	--	--	5	$\mu\text{A}$
Clamping Voltage	$I_{PP}=5\text{A}$ , tp=8/20 $\mu\text{s}$	$V_C$	--	--	9.8	V
	$I_{PP}=24\text{A}$ , tp=8/20 $\mu\text{s}$		--	--	14.5	
Off State Junction Capacitance	$V_{dc}=0$ , f=1MHz	$C_J$	--	--	200	pF

Notes:  $T_J=25^{\circ}\text{C}$  unless otherwise specified

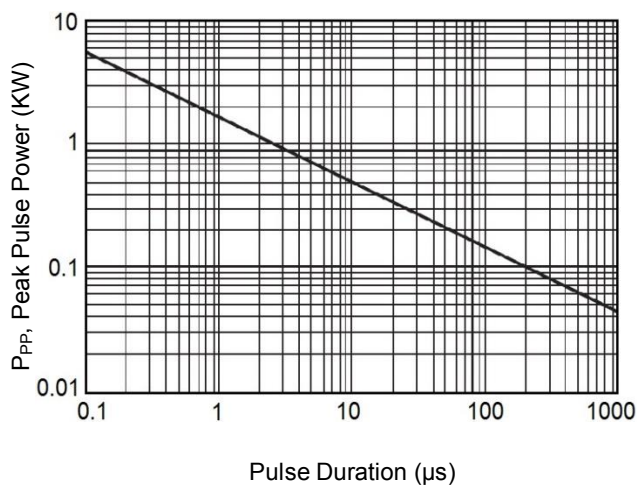
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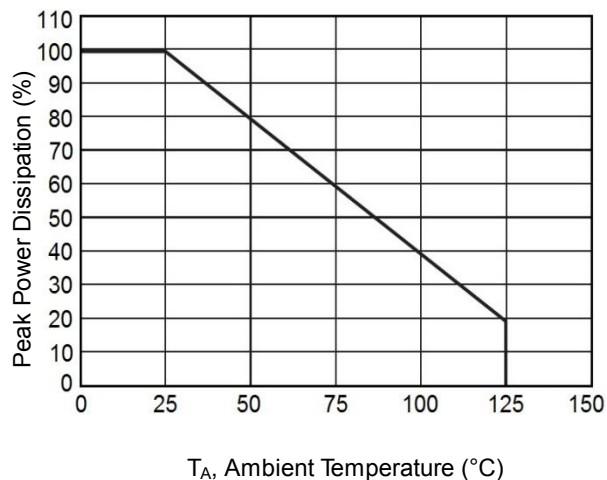
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## CHARACTERISTIC CURVES

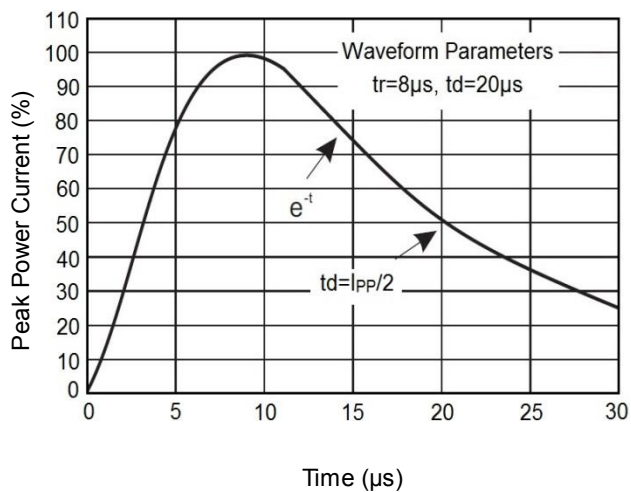
Non-Repetitive Peak Pulse Power vs. Pulse Time



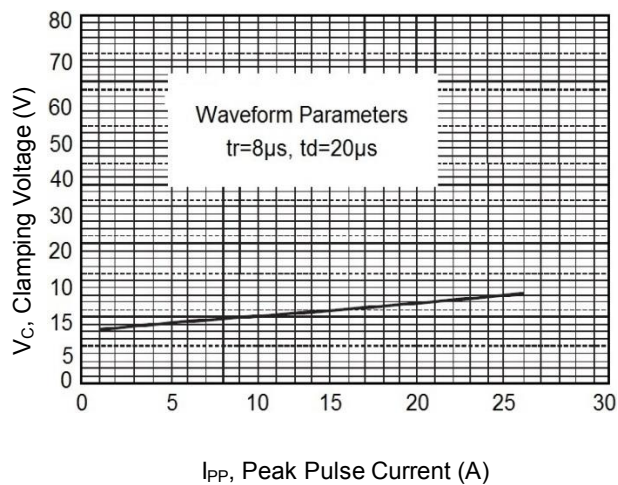
Derating Curve



Pulse Waveforms



Clamping Voltage vs. Peak Pulse Current



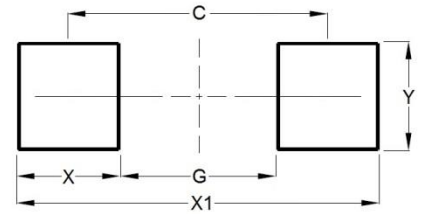
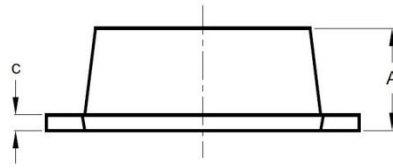
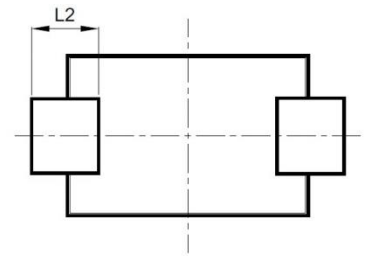
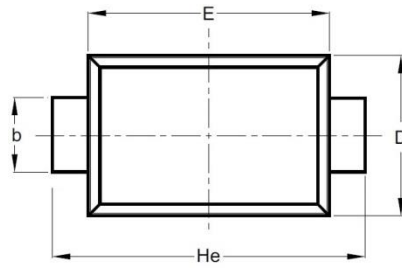
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## DIMENSIONS AND RECOMMENDED LAND PATTERN

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.