

# SOD-323 Plastic-Encapsulate Diodes

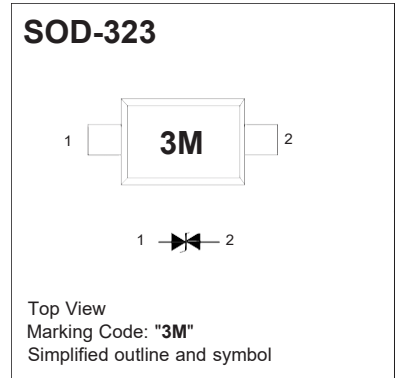
## ESD3Z5V0C Bi-direction ESD Protection Diode

### DESCRIPTION

Low capacitance bidirectional double ElectroStatic Discharge (ESD) protection diode in a small Surface-Mounted Device (SMD) plastic package designed to protect two data lines from the damage caused by ESD and other transients.

### FEATURES

- Bi-directional ESD protection
- Low reverse stand-off voltage: 5.0V
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection



### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )

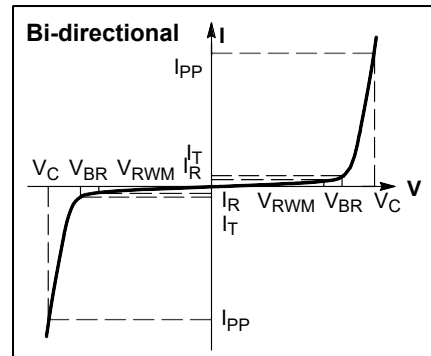
Parameter	Symbol	Limit	Unit	
IEC 61000-4-2 ESD Voltage	$V_{\text{ESD}}^{(1)}$	Air Model	$\pm 25$	kV
		Contact Model	$\pm 25$	
JESD22-A114-B ESD Voltage		Per Human Body Model	$\pm 16$	
ESD Voltage		Machine Model	$\pm 0.4$	
Peak Pulse Power	$P_{\text{PP}}^{(2)}$	210	W	
Peak Pulse Current	$I_{\text{PP}}^{(2)}$	28	A	
Lead Solder Temperature – Maximum (10 Second Duration)	$T_L$	260	$^{\circ}\text{C}$	
Junction Temperature	$T_j$	150	$^{\circ}\text{C}$	
Storage Temperature Range	$T_{\text{stg}}$	-55 ~ +150	$^{\circ}\text{C}$	

(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5.

### ELECTRICAL PARAMETER

Symbol	Parameter
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Peak Pulse Current
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Reverse Standoff Voltage

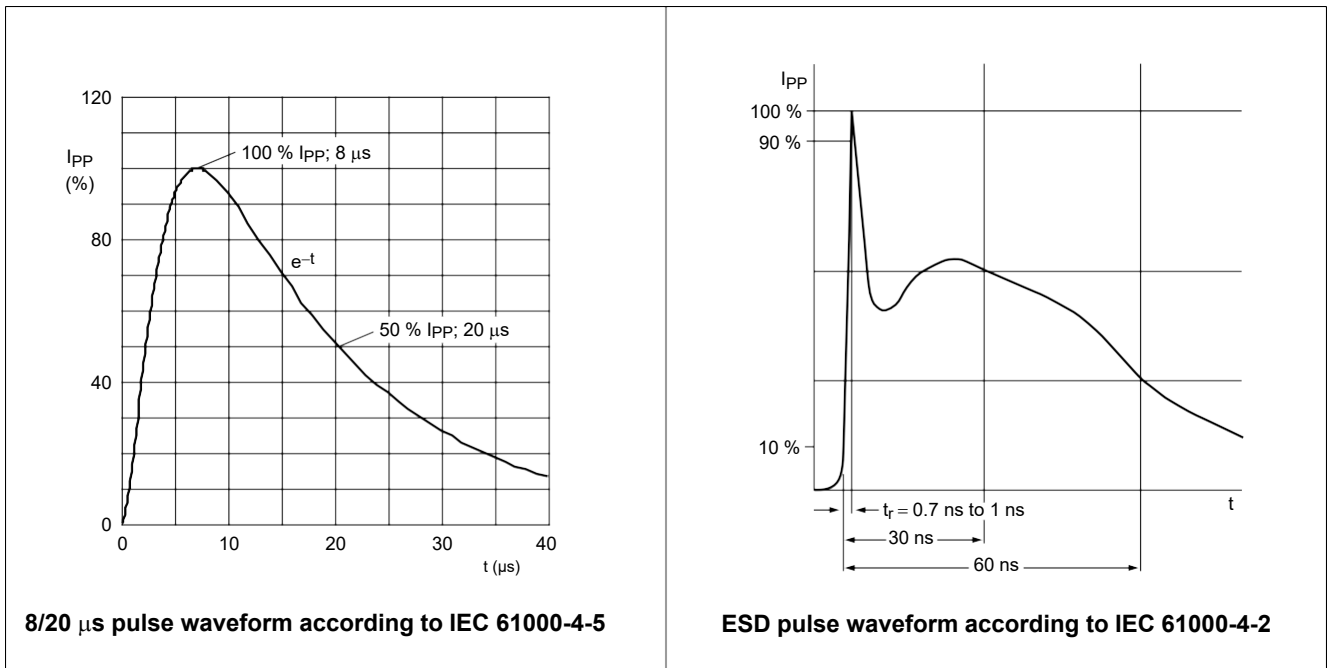


### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ unless otherwise noted )

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand off voltage	$V_{RWM}^{(1)}$				5.0	V
Reverse leakage current	$I_R$	$V_{RWM}=5.0V$			1.0	$\mu A$
Breakdown voltage	$V_{(BR)}$	$I_T=1mA$	5.5		7.5	V
Clamping voltage	$V_C^{(2)}$	$I_{PP}=28A$			17	V
Junction capacitance	$C_J$	$V_R=0V, f=1MHz$		30		pF

(1). Other voltages available upon request.

(2). Non-repetitive current pulse 8/20 $\mu s$  exponential decay waveform according to IEC61000-4-5

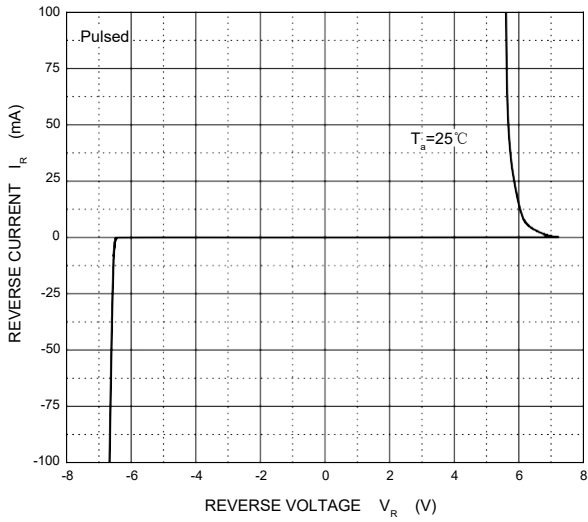


8/20  $\mu s$  pulse waveform according to IEC 61000-4-5

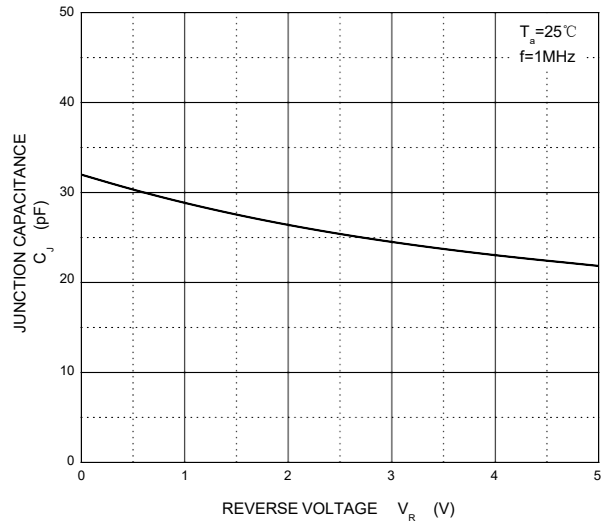
ESD pulse waveform according to IEC 61000-4-2

TYPICAL CHARACTERISTICS

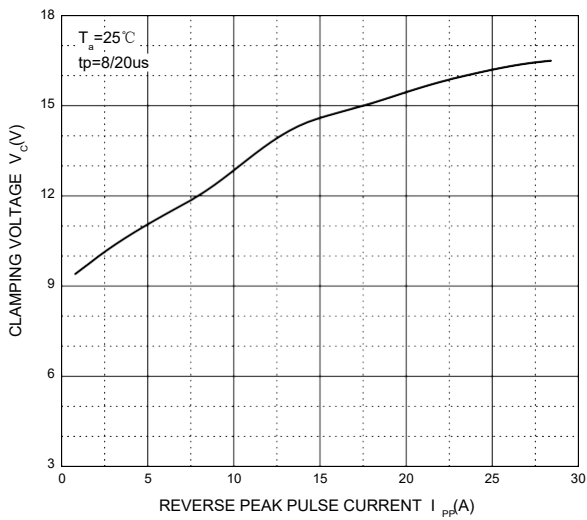
Reverse Characteristics



Capacitance Characteristics



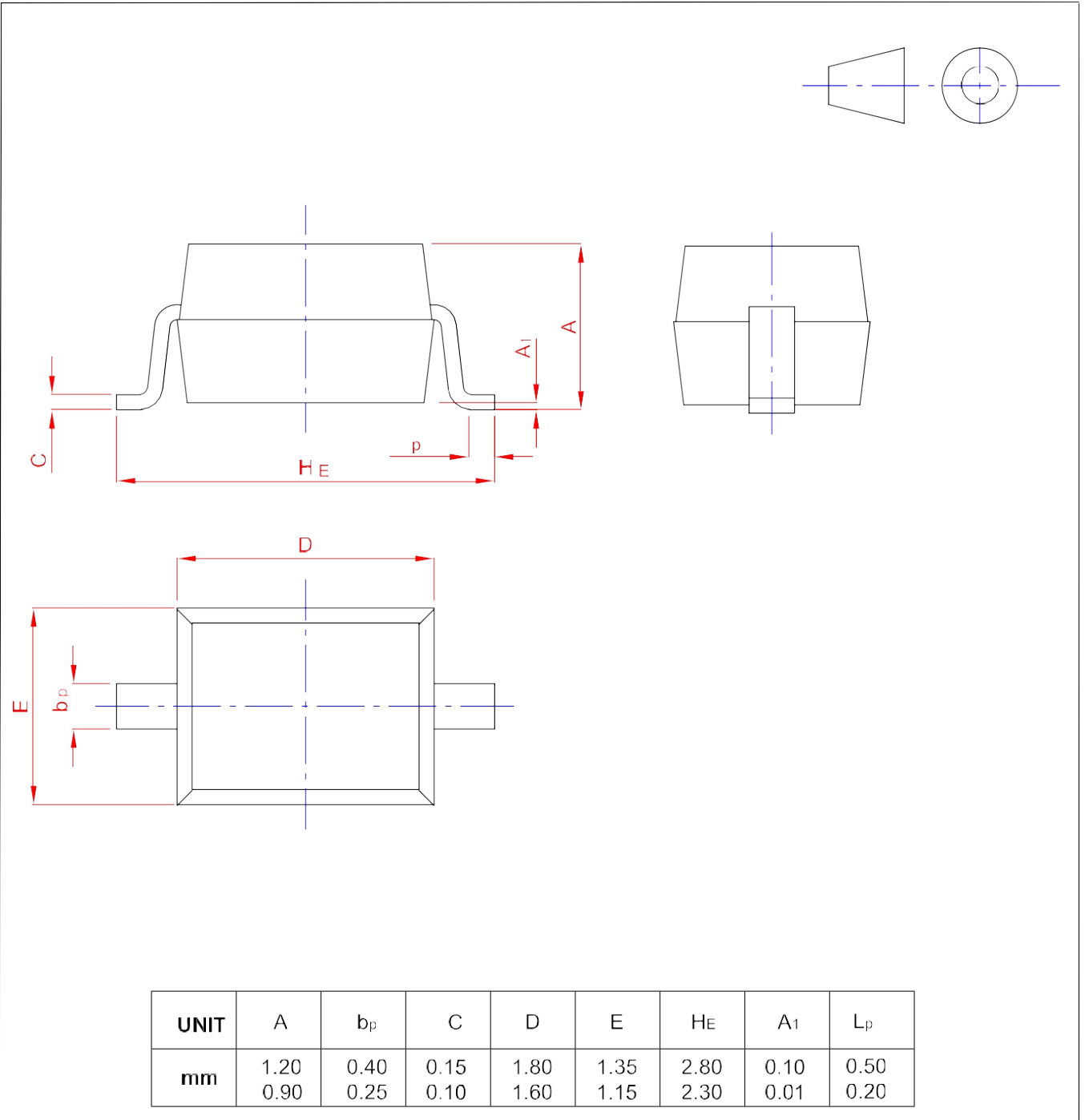
$V_c$  —  $I_{pp}$



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



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