

# SOD-323 Plastic-Encapsulate Diodes

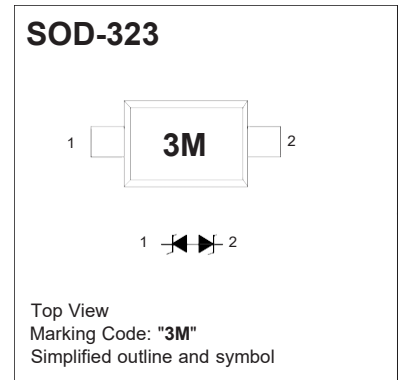
## DESD3Z5V0C Bi-direction ESD Protection Diode

### 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 )

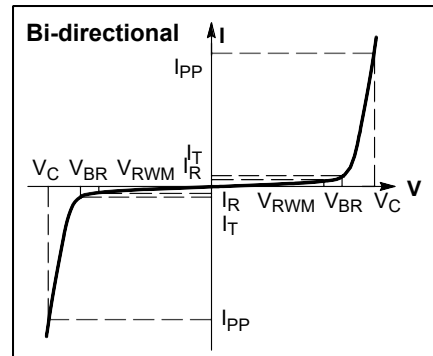
Parameter	Symbol	Limit	Unit	
IEC 61000-4-2 ESD Voltage	$V_{\text{ESD}}^{(1)}$	Air Model	$\pm 25$	kV
		Contact Model	$\pm 25$	
JESD22-A114-B ESD Voltage		Per Human Body Model	$\pm 16$	
ESD Voltage		Machine Model	$\pm 0.4$	
Peak Pulse Power	$P_{\text{PP}}^{(2)}$	360	W	
Peak Pulse Current	$I_{\text{PP}}^{(2)}$	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

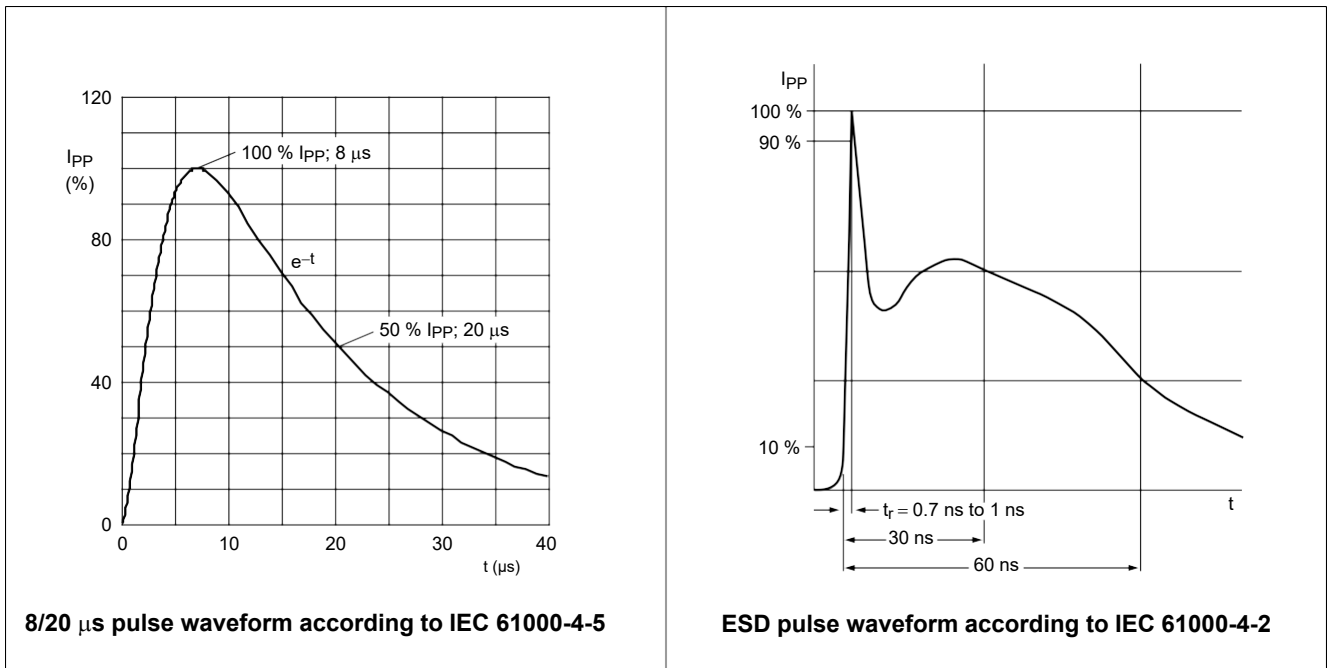


### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ unless otherwise noted )

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		8.0	V
Clamping voltage	$V_C^{(2)}$	$I_{PP}=28A$			17	V
Junction capacitance	$C_J$	$V_R=0V, f=1MHz$		25		pF

(1).Other voltages available upon request.

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

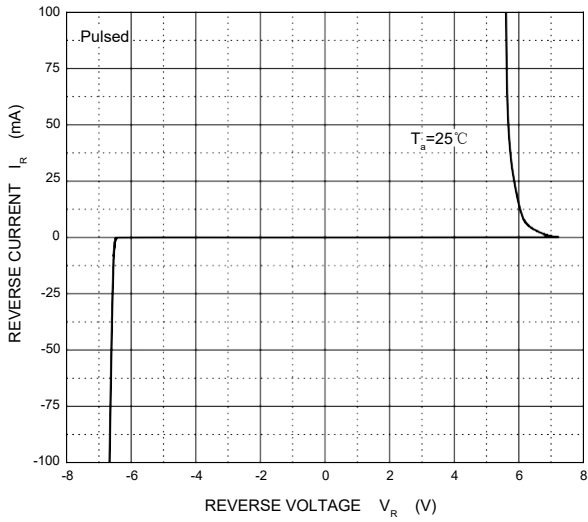


8/20  $\mu s$  pulse waveform according to IEC 61000-4-5

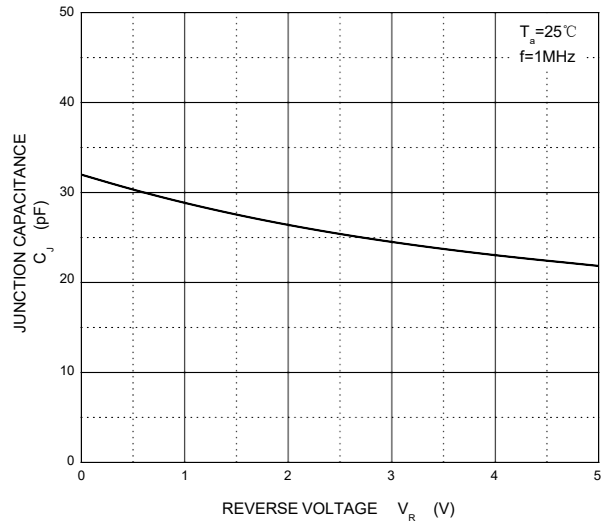
ESD pulse waveform according to IEC 61000-4-2

TYPICAL CHARACTERISTICS

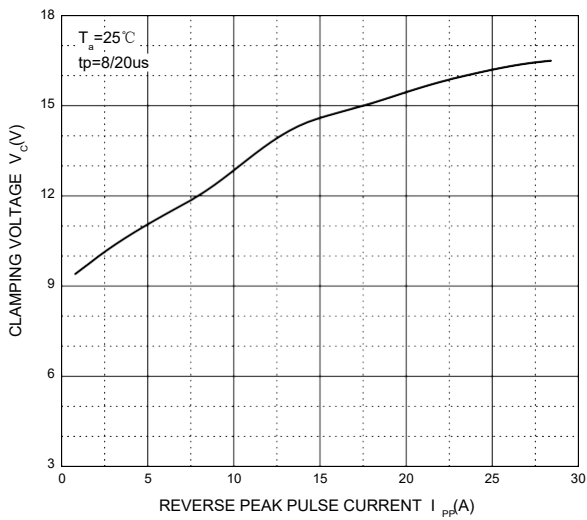
Reverse Characteristics



Capacitance Characteristics



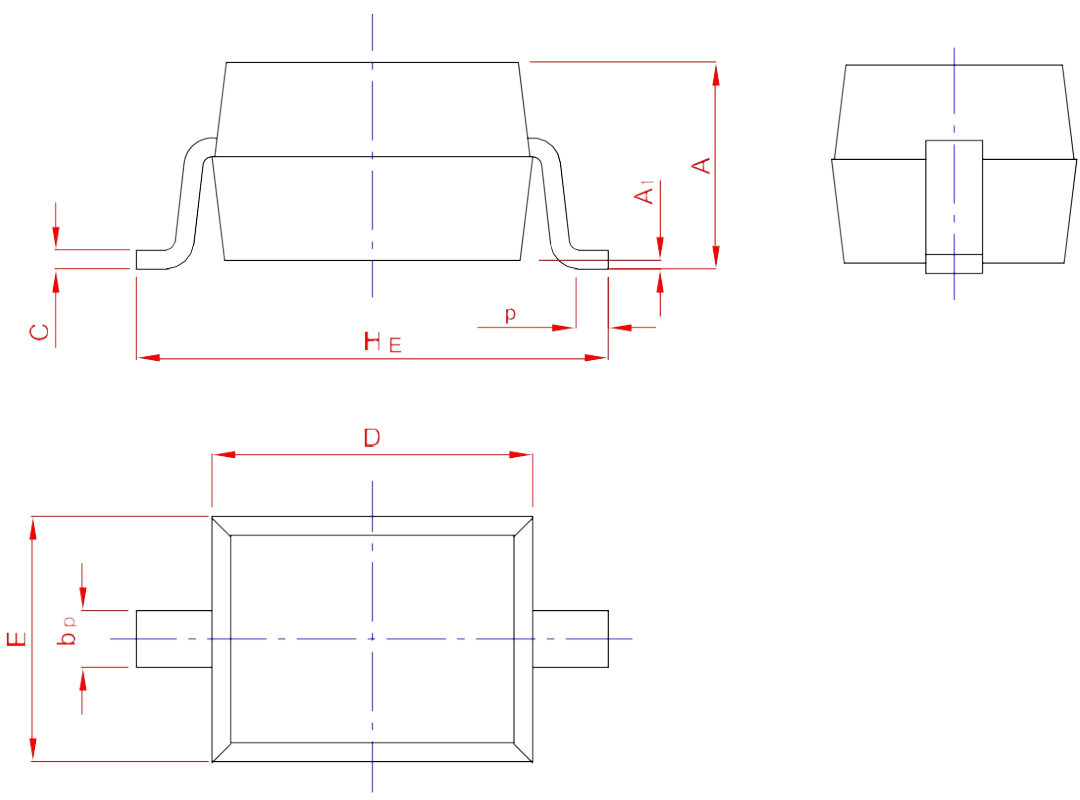
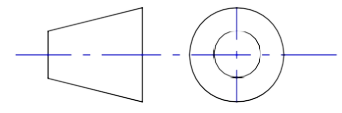
$V_c$  —  $I_{pp}$



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b <sub>p</sub>	C	D	E	H <sub>E</sub>	A <sub>1</sub>	L <sub>p</sub>
mm	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50
	0.90	0.25	0.10	1.60	1.15	2.30	0.01	0.20

## DISCLAIMER

- Before you use our Products, you are requested to carefully read this document and fully understand its contents. BLUECOLOUR shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any BLUECOLOUR's Products against warning, caution or note contained in this document.
- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using BLUECOLOUR's Products, please confirm the latest information with a BLUECOLOUR sales representative.