

SOD-323 Plastic-Encapsulate Diodes

DESD3Z18C Bi-direction ESD Protection Diode

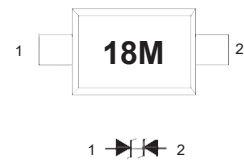
DESCRIPTION

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: 18V
- 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

SOD-323



Top View
Marking Code: "18M"
Simplified outline SOD-323 and symbol

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

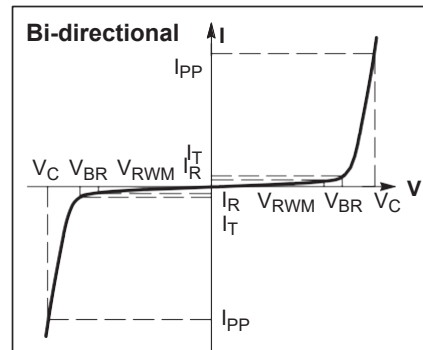
Parameter	Symbol	Limit	Unit	
IEC 61000-4-2 ESD Voltage	$V_{\text{ESD}}^{(1)}$	Air Model	± 25	kV
		Contact Model	± 25	
JESD22-A114-B ESD Voltage		Per Human Body Model	± 16	
ESD Voltage		Machine Model	± 0.4	
Peak Pulse Power	$P_{\text{PP}}^{(2)}$	350	W	
Peak Pulse Current	$I_{\text{PP}}^{(2)}$	15	A	
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	$^\circ\text{C}$	
Junction Temperature	T_j	150	$^\circ\text{C}$	
Storage Temperature Range	T_{stg}	-55 ~ +150	$^\circ\text{C}$	

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

(2).Non-repetitive current pulse 8/20 μs 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

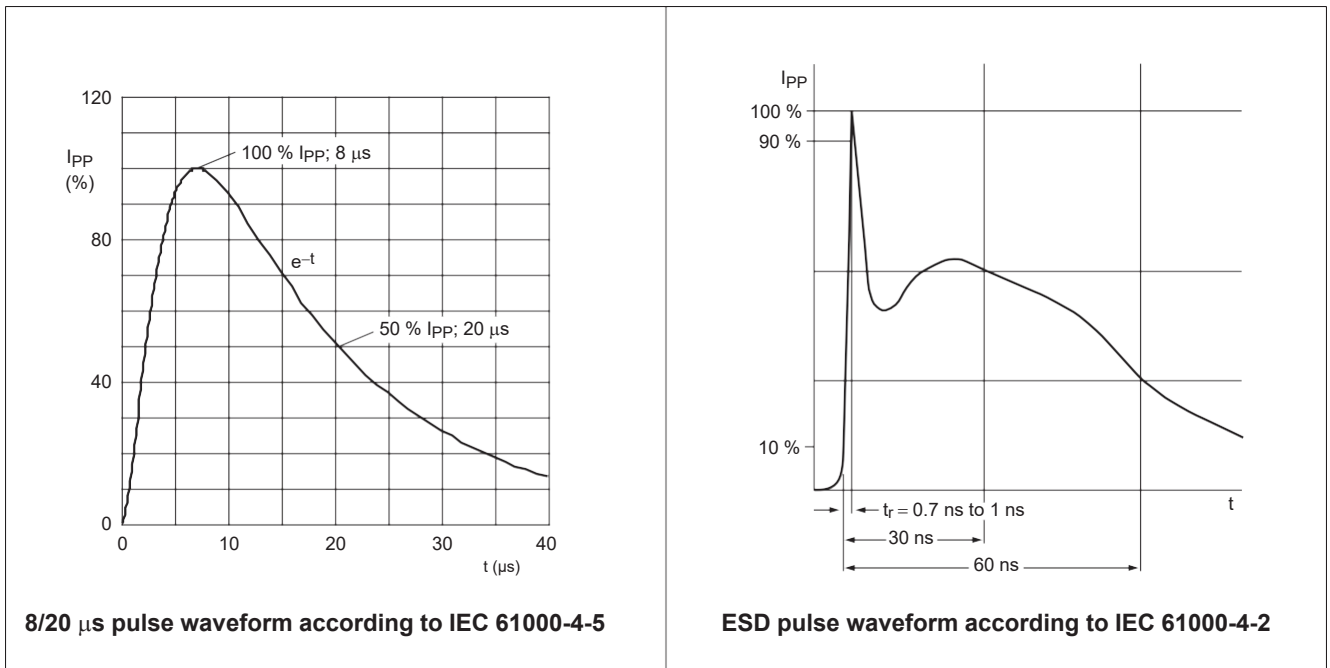


ELECTRICAL CHARACTERISTICS ($T_a=25^\circ$ unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand off voltage	$V_{RWM}^{(1)}$				18	V
Reverse leakage current	I_R	$V_{RWM}=18V$			0.05	μA
Breakdown voltage	$V_{(BR)}$	$I_T=1mA$	18.5		23.0	V
Clamping voltage	$V_C^{(2)}$	$I_{PP}=1.5A$			40	V
Junction capacitance	C_J	$V_R=0V, f=1MHz$		2.0		pF

(1). Other voltages available upon request.

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

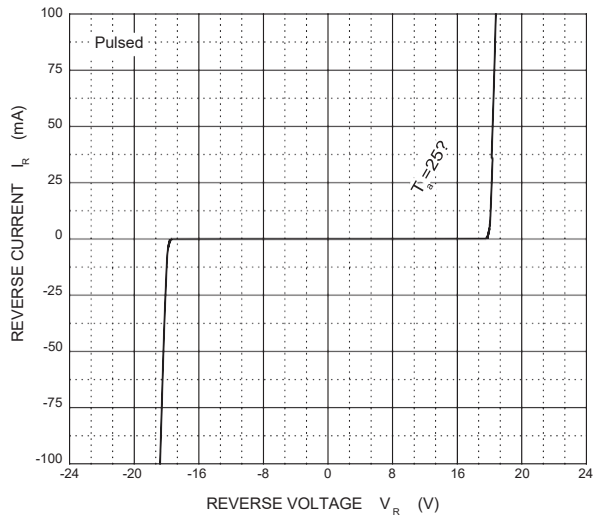


8/20 μs pulse waveform according to IEC 61000-4-5

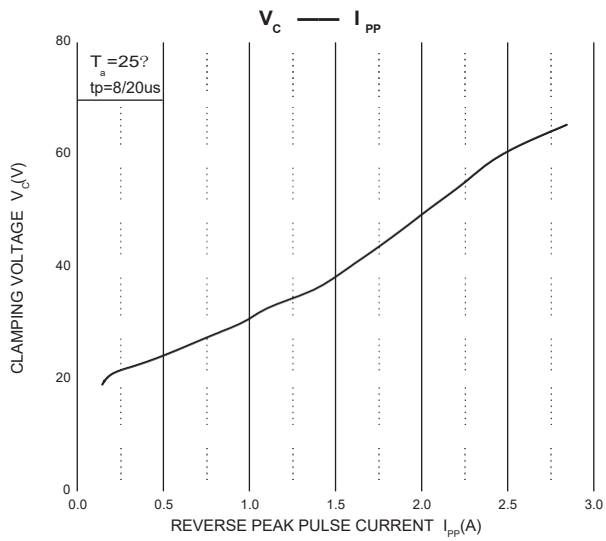
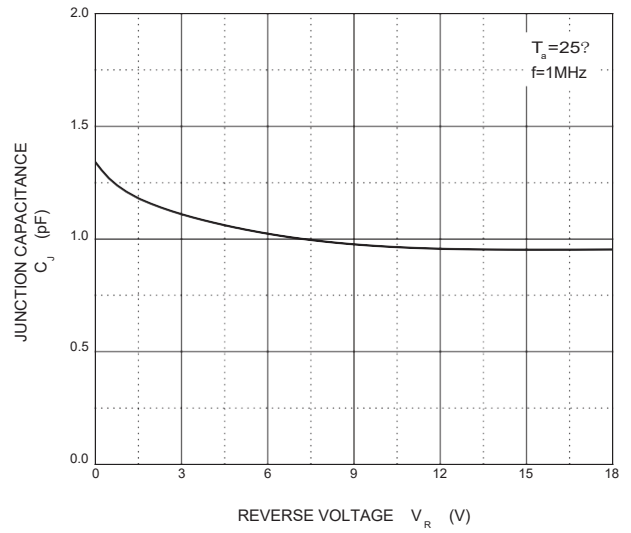
ESD pulse waveform according to IEC 61000-4-2

TYPICAL CHARACTERISTICS

Reverse Characteristics



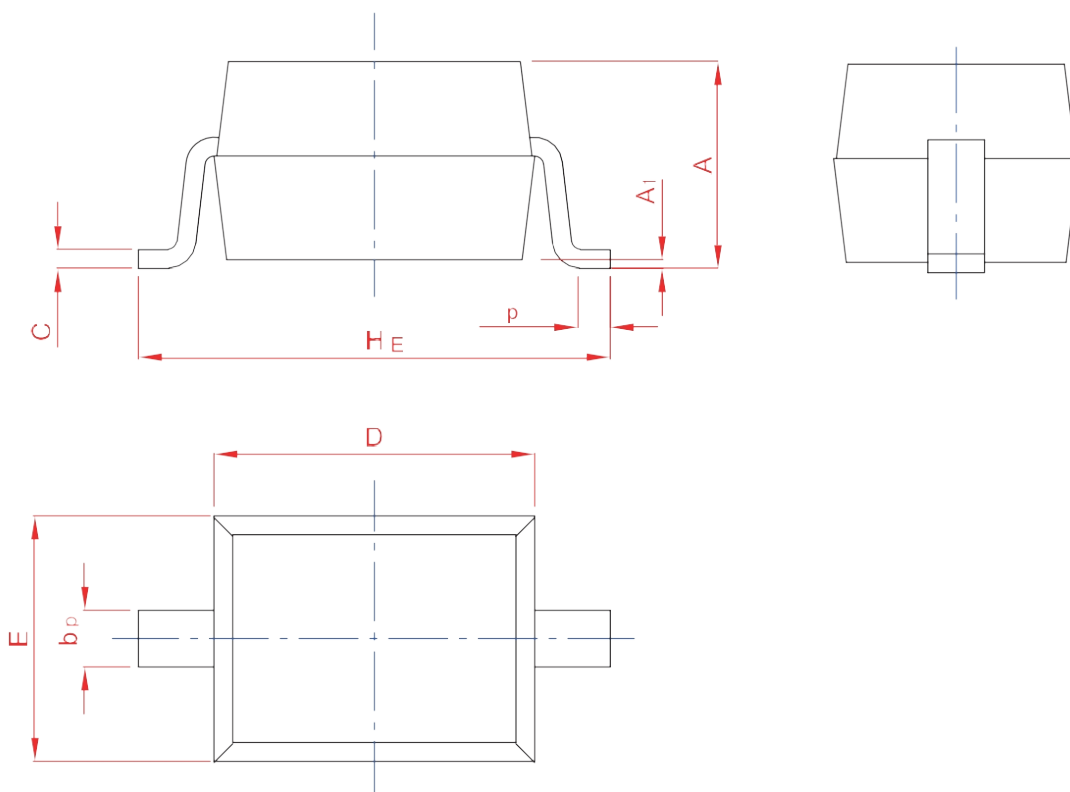
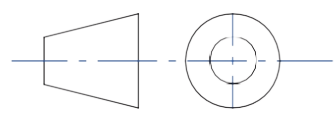
Capacitance Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b _p	C	D	E	H _E	A ₁	L _p
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