

Plastic-Encapsulate Diodes 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: 24V
- 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

Order Information

Part Number	Package	Marking	Size (mm)	Delivery Form	Delivery Quantity
ESD3Z24CM	SOD-323	24M	2.6X1.3X0.5	7" T&R	3000PCS/Tape

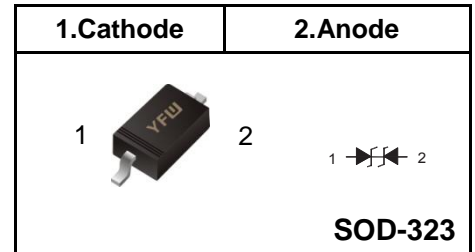
Limiting Values(TA = 25 °C, unless otherwise specified)

Parameter	Conditions	Symbol	value	Unit
IEC 61000-4-2 ESD Voltage	Air Model	$V_{ESD}^{(1)}$	± 25	KV
	Contact Model		± 25	
JESD22-A114-B ESD Voltage	Per Human Body Model		± 16	
ESD voltage	Machine Model		± 0.4	
Peak Pulse Power	-	$P_{PP}^{(2)}$	360	W
Peak Pulse Current	-	$I_{PP}^{(2)}$	7	A
Lead Solder Temperature	Maximum (10 Second Duration)	T_L	260	°C
Junction Temperature	-	T_J	150	°C
Storage Temperature Range	-	T_{stg}	-55 to+150	°C

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

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

Pinning



Electrical Characteristics(TA = 25 °C unless otherwise specified)

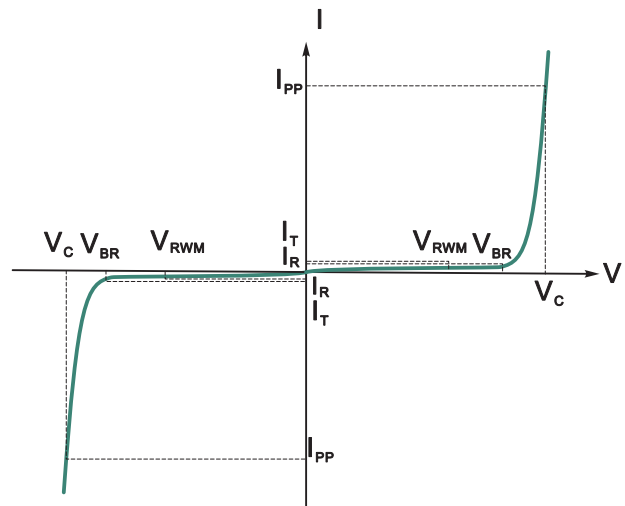
Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse Stand-Off Voltage	$V_{RWM}^{(1)}$		-	-	24	V
Reverse Leakage Current	I_R	$V_{RWM} = 24\text{ V}$	-	-	1.0	μA
Breakdown Voltage	V_{BR}	$I_T = 1\text{ mA}$	26.7	-	31.0	V
Clamping Voltage	$V_C^{(2)}$	$I_{PP}=7\text{ A}$	-	-	55	V
Junction Capacitance	C_J	$V_R = 0\text{ V}, f = 1\text{ MHz}$	-	2	-	pF

(1)Other voltages available upon request.

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

Electrical Parameters

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



Typical Characteristics

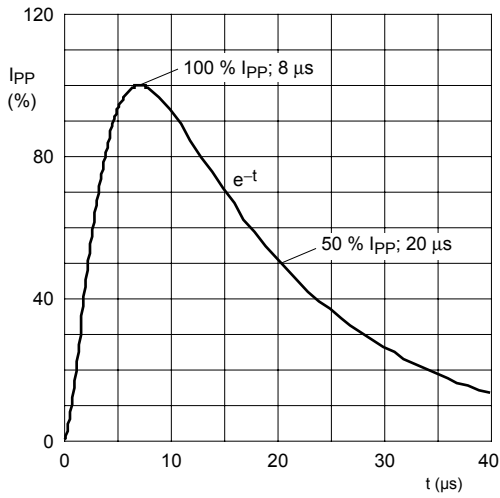


Fig.1 8/20 us pulse waveform according to IEC 61000-4-5

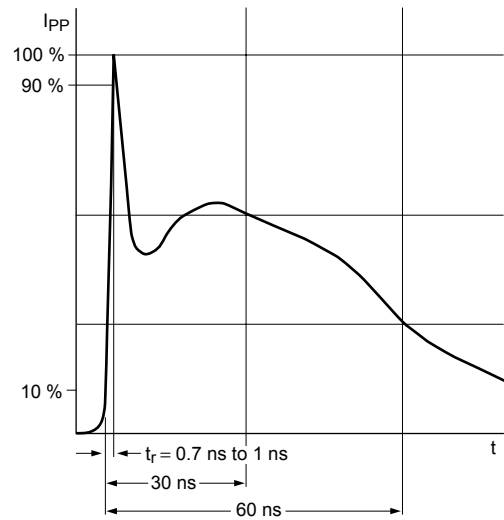


Fig.2 ESD pulse waveform according to IEC 61000-4-2

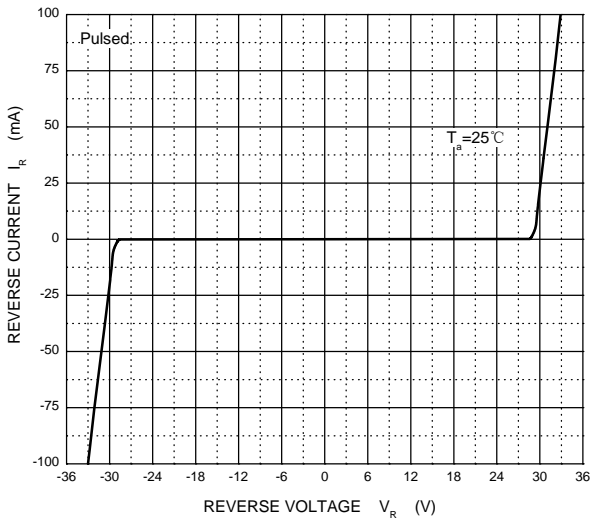


Fig.3 Reverse Characteristics

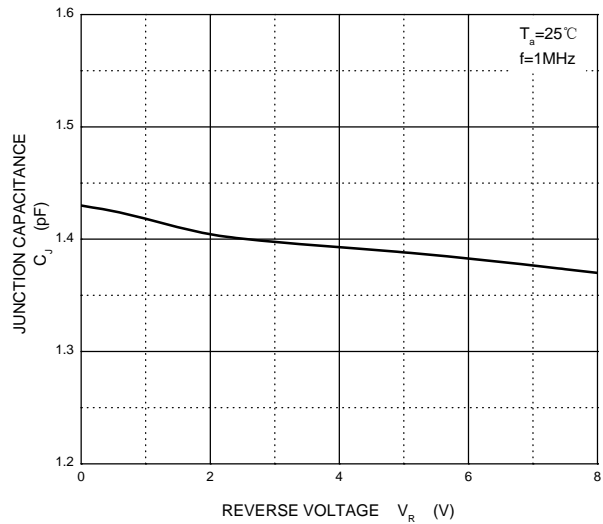


Fig. 4 apacitance Characteristics

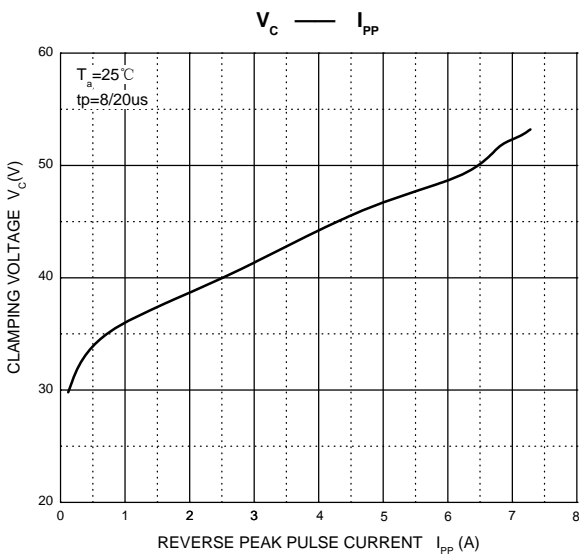
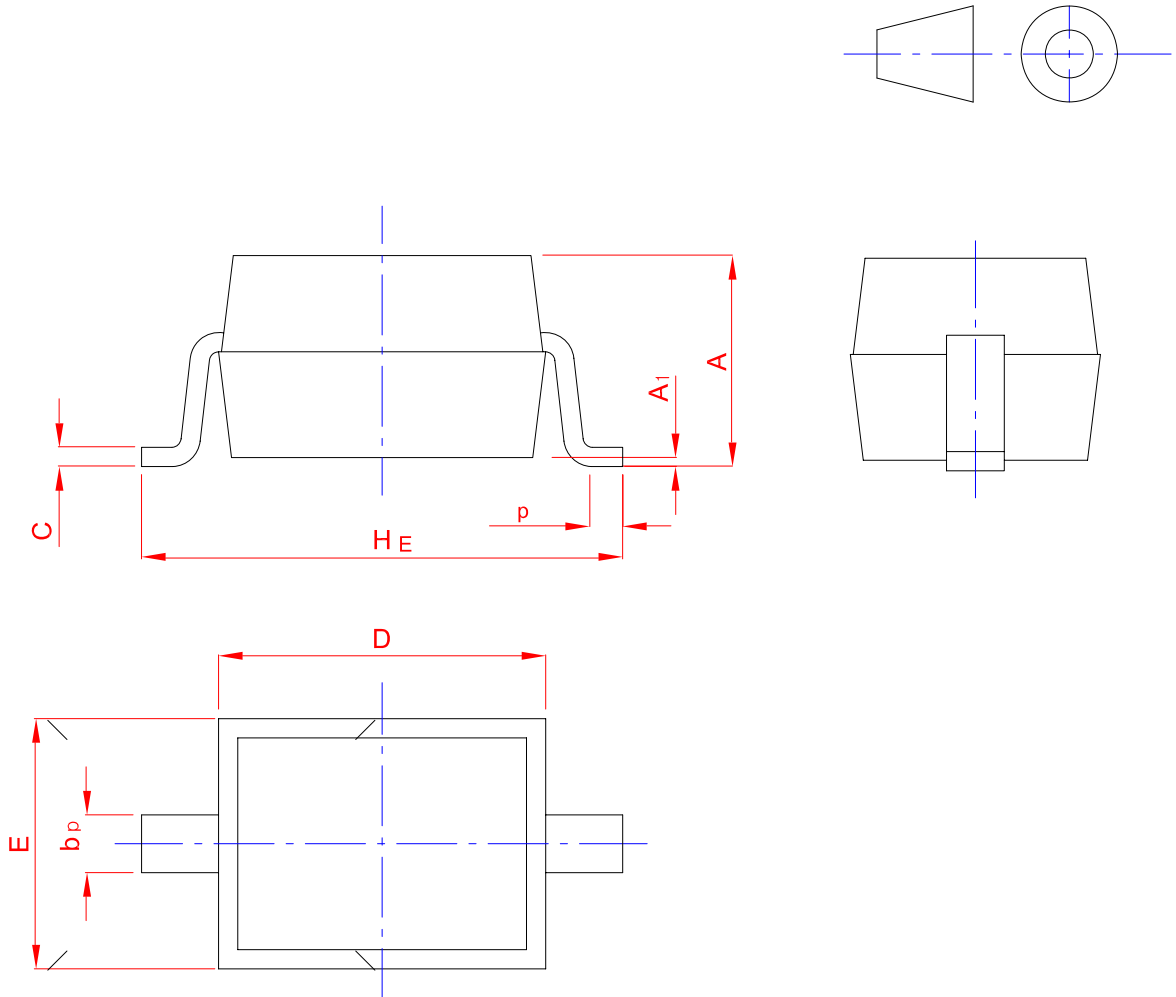


Fig.5 V_C-I_{PP}

Package Outline

SOD-323

Plastic surface mounted package; 2 leads



UNIT	A	bp	C	D	E	HE	A1	Lp
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

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