

ESD3BP5V0WS

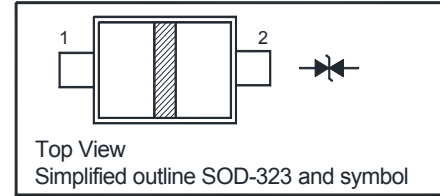
ESD Protection Diode

Features

- Bi-direction high reliability
- Low clamping voltage

PINNING

PIN	DESCRIPTION
1	Anode
2	Anode



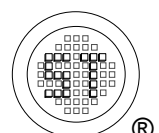
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$)	P_{PK}	160	W
Peak Pulse Current ($t_p = 8/20 \mu\text{s}$)	I_{PP}	12	A
IEC61000-4-2 (ESD) Air Contact	V_{ESD}	± 30 ± 30	KV
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	5	V
Reverse Breakdown Voltage at $I_R = 1 \text{ mA}$	$V_{(BR)R}$	5.5	-	9.5	V
Reverse Current at $V_{RWM} = 5 \text{ V}$	I_R	-	-	100	nA
Clamping Voltage at $I_{PP} = 1 \text{ A}$, $t_p = 8/20 \mu\text{s}$ at $I_{PP} = 12 \text{ A}$, $t_p = 8/20 \mu\text{s}$	V_C	-	-	10 14	V
ESD Clamping Voltage at $I_{TLP} = 4 \text{ A}$, $t_p = 0.2/100 \text{ ns}$ at $I_{TLP} = 16 \text{ A}$, $t_p = 0.2/100 \text{ ns}$	V_{CL}	-	7.4 8.1	-	V
Junction Capacitance at $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_j	-	-	45	pF
Dynamic Resistance ¹⁾	R_{dyn}	-	0.06	-	Ω

¹⁾ Dynamic Resistance calculated from $I_{TLP} = 4 \text{ A}$ to $I_{TLP} = 16 \text{ A}$.



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Electrical Characteristics Curves

Fig 1. Pulse Waveform

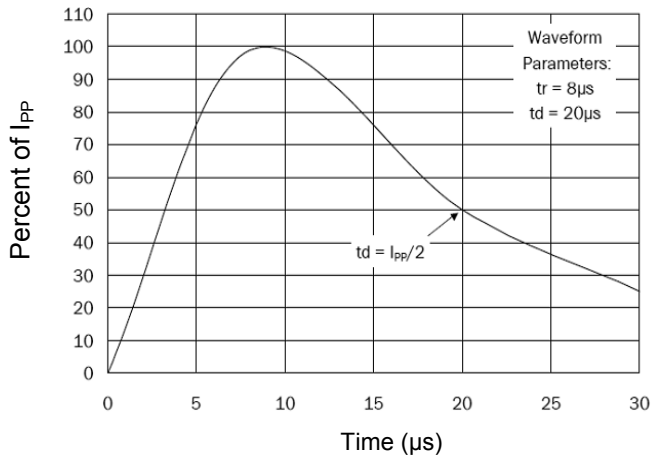


Fig 2. Power Derating Curve

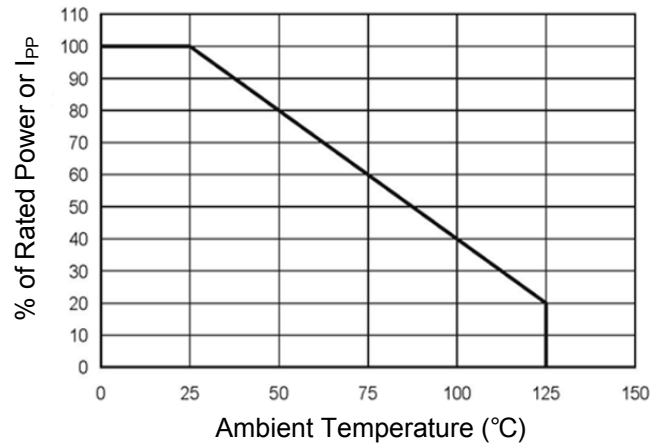


Fig 3. Clamping Voltage Curve (Pin 1 to Pin 2)

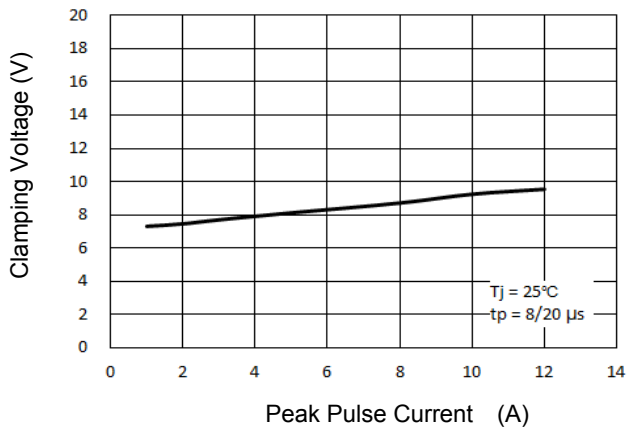


Fig 4. Junction Capacitance (Pin 1 to Pin 2)

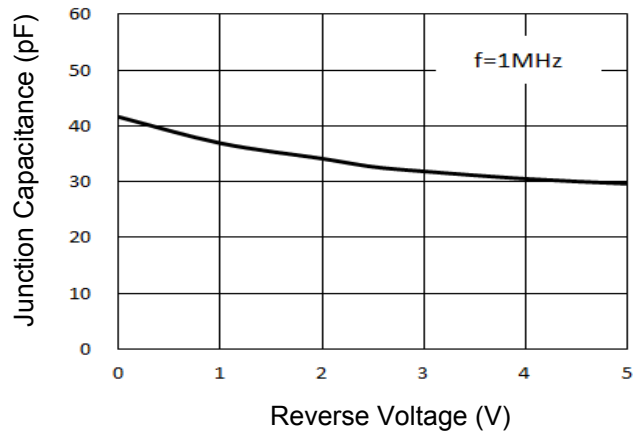


Fig 5. Clamping Voltage Curve (Pin 2 to Pin 1)

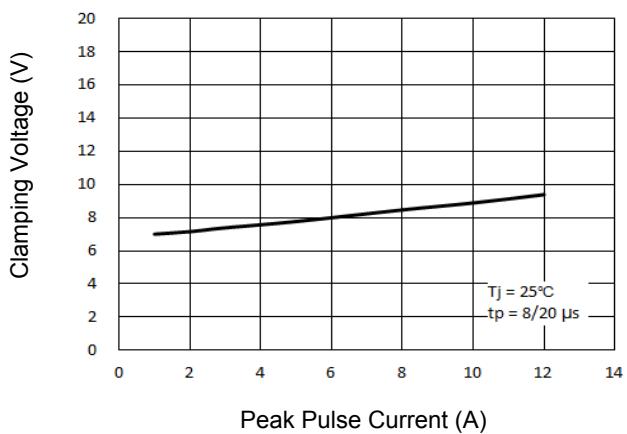
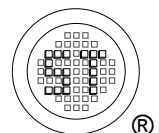
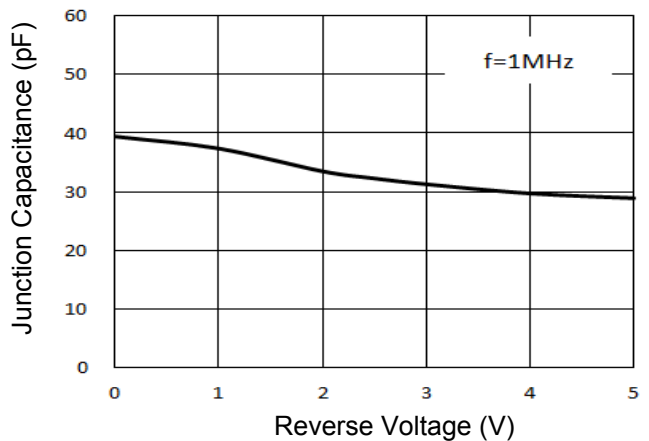


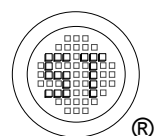
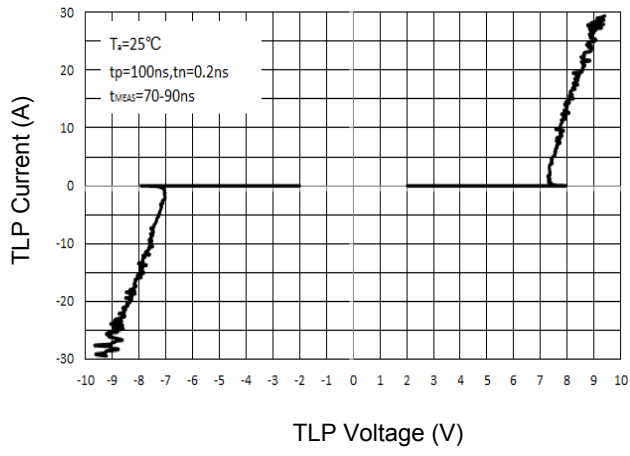
Fig 6. Junction Capacitance (Pin 2 to Pin 1)



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Electrical Characteristics Curves

Fig. 7 TLP Curve

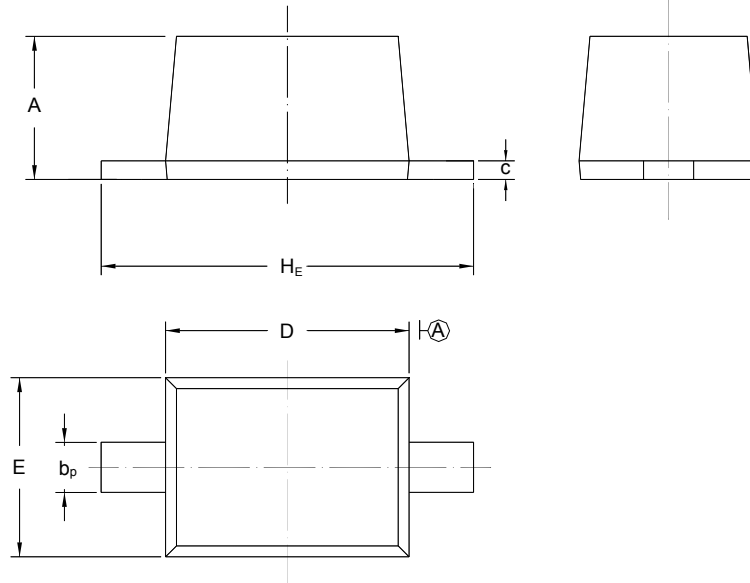


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PACKAGE OUTLINE

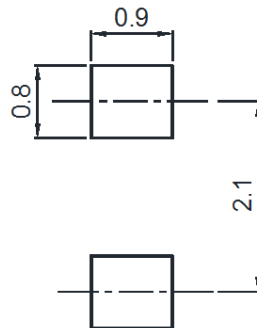
Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b _p	C	D	E	H _E
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" III ": Polarity marking

