

ESD5BL5V0

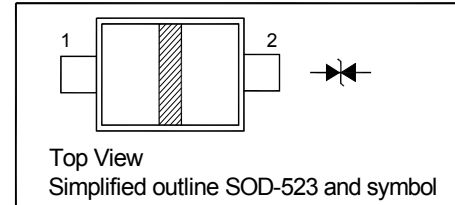
ESD Protection Diode

Features

- Bi-directional low capacitance

PINNING

PIN	DESCRIPTION
1	Anode
2	Anode



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

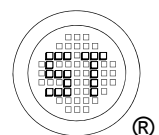
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation ($t_p = 8/20 \mu\text{s}$)	P_{PP}	84	W
Peak Pulse Current ($t_p = 8/20 \mu\text{s}$)	I_{PP}	6	A
ESD Discharge (IEC61000-4-2) Air Contact	V_{ESD}	± 30 ± 30	KV
ESD Voltage Per Human Body Model Per Machine Model	V_{ESD}	30 500	KV V
Power Dissipation ¹⁾	P_D	150	mW
Operating Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Device mounted on FR-4 PCB pad layout (2 oz copper)

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Standoff Voltage	V_{RWM}	-	-	5	V
Breakdown Voltage at $I_R = 1 \text{ mA}$	V_{BR}	6	-	8	V
Reverse Current at $V_R = 5 \text{ V}$	I_R	-	-	100	nA
Clamping Voltage at $I_{PP} = 1 \text{ A}$, $t_p = 8/20 \mu\text{s}$ at $I_{PP} = 3 \text{ A}$, $t_p = 8/20 \mu\text{s}$ at $I_{PP} = 5 \text{ A}$, $t_p = 8/20 \mu\text{s}$ at $I_{PP} = 6 \text{ A}$, $t_p = 8/20 \mu\text{s}$	V_C	-	-	9 10.7 13.5 14	V
ESD Clamping Voltage at $I_{TLP} = 4 \text{ A}$, $t_p = 100 \text{ ns}$, $t_n = 0.2 \text{ ns}$ at $I_{TLP} = 16 \text{ A}$, $t_p = 100 \text{ ns}$, $t_n = 0.2 \text{ ns}$	V_{CL}	-	7.9 10.9	-	V
Diode Capacitance at $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_D	-	-	20	pF
Dynamic Resistance ¹⁾	R_{DYN}	-	0.25	-	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

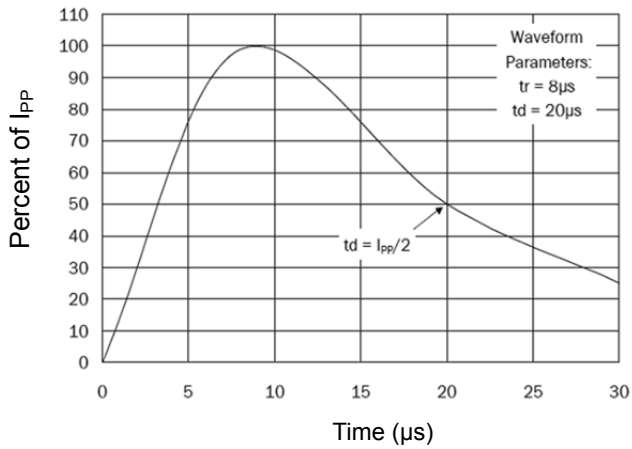


Fig 2. Power Derating Curve

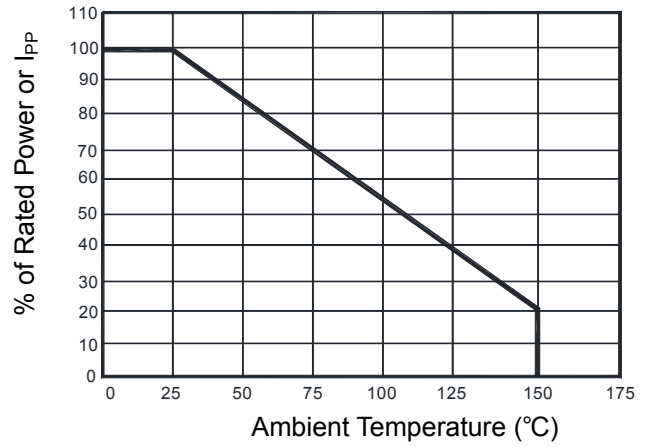


Fig 3. Clamping Voltage Curve

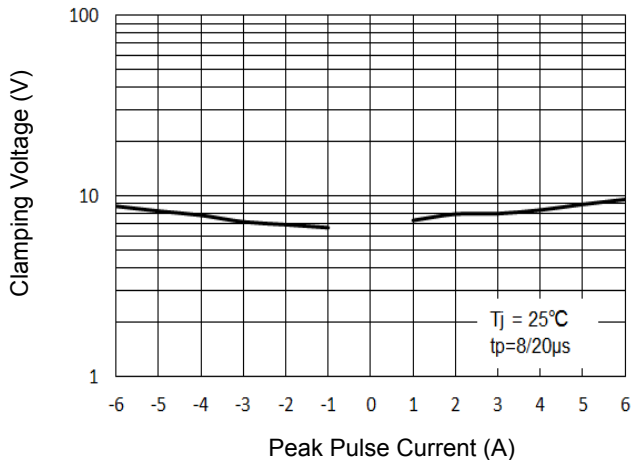


Fig 4. Junction Capacitance

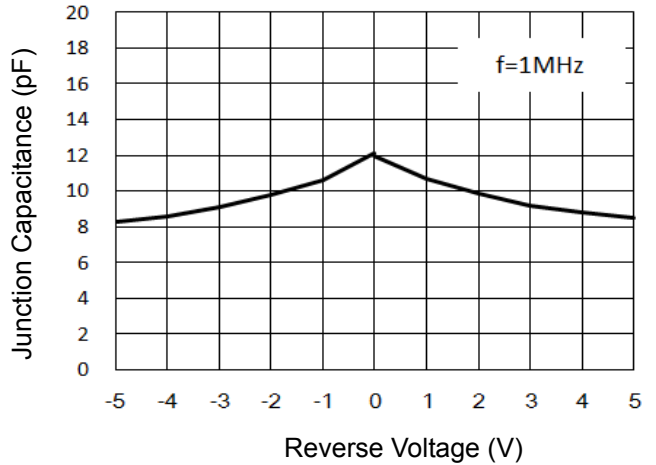
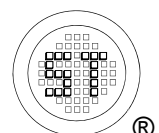
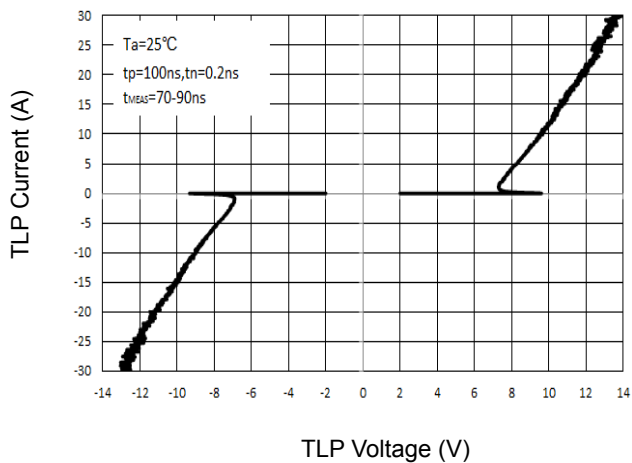


Fig 5. TLP Curve

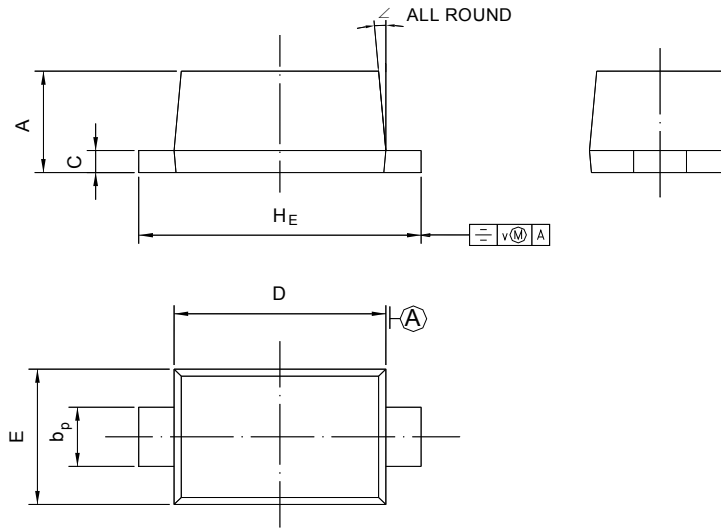


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PACKAGE OUTLINE

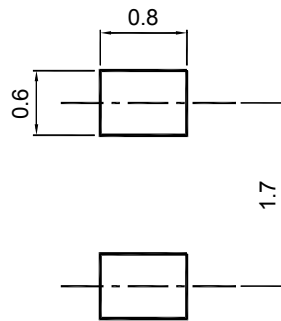
Plastic surface mounted package; 2 leads

SOD-523



UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.60	0.4 0.3	0.135 0.100	1.25 1.15	0.85 0.75	1.7 1.5	0.1	5°

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-523	8	4 ± 0.1	0.157 ± 0.004	178	7	4,000

Marking information

" III ": Polarity marking

