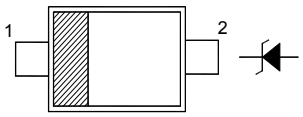
ESD5P5V0

ESD Protection Diode

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-523 and symbol

Absolute Maximum Ratings (T_a = 25℃)

Parameter		Symbol	Value	Unit
Peak Power (tp = 8/20 µs)		P_{PK}	107	W
Peak Pulse Current (tp = 8/20 µs)		I_{PP}	8.7	A
IEC61000-4-2 (ESD)	Air Contact	V_{ESD}	± 30	KV
Power Dissipation [1]		P_D	150	mW
Junction Temperature Range		T_j	- 55 to + 150	℃
Storage Temperature Range		T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient [1]	$R_{\theta JA}$	833	℃/W

[1] Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	5	V
Reverse Breakdown Voltage at I_R = 1 mA	$V_{(BR)R}$	6.2	-	-	V
Reverse Current at V_{RWM} = 5 V	I_R	-	-	1	µA
Forward Voltage at I_F = 10 mA	V_F	-	-	0.9	V
Clamping Voltage at I_{PP} = 8.7 A, tp = 8/20 µs	V_C	-	-	12.3	V
ESD Clamping Voltage at I_{TLP} = 4 A, tp = 0.2/100 ns at I_{TLP} =16 A, tp = 0.2/100 ns	V_{CL}	- -	9.1 13.4	- -	V
Junction Capacitance at V_R = 0 V, f = 1 MHz	C_j	-	65	-	pF
Dynamic Resistance [1]	R_{dyn}	-	0.36	-	Ω

[1] Dynamic Resistance calculated from I_{TLP} = 4A to I_{TLP} = 16 A .

Dated: 16/05/2022 Rev: 02

Electrical Characteristics Curves

Fig 1. Pulse Waveform

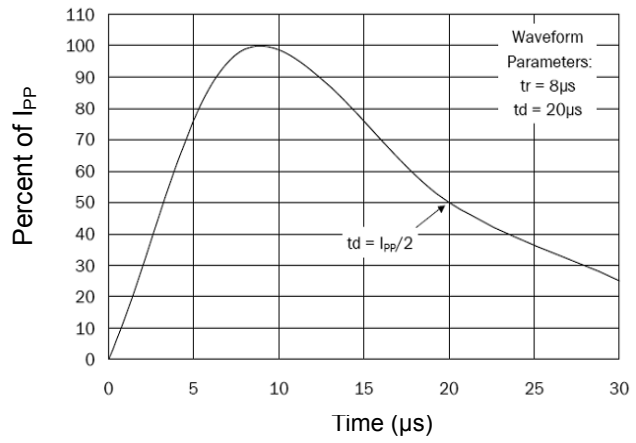


Fig 2. Power Derating Curve

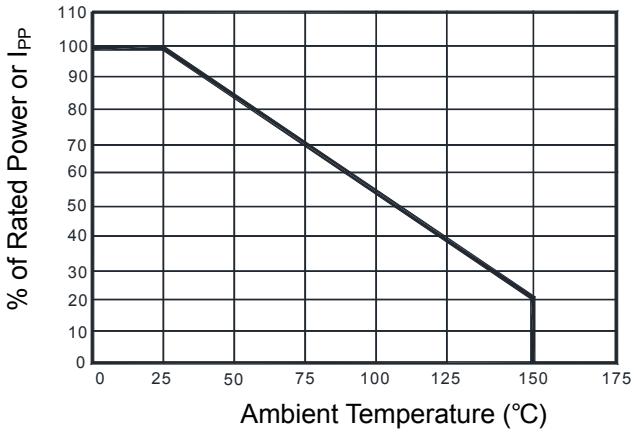


Fig 3. Clamping Voltage Curve

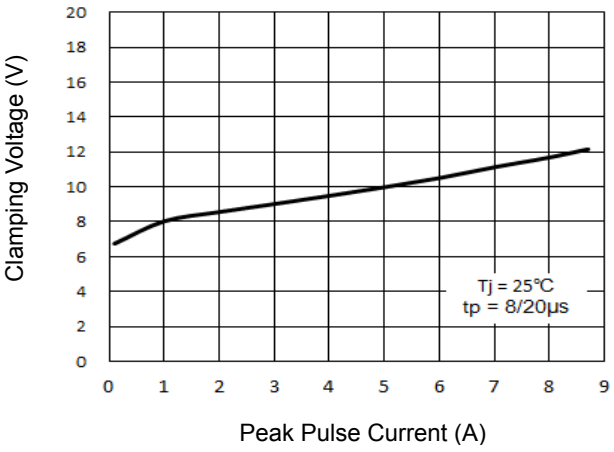


Fig 4. Junction Capacitance

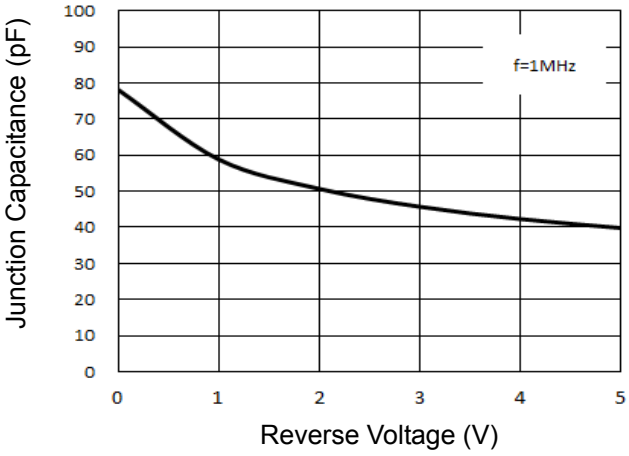
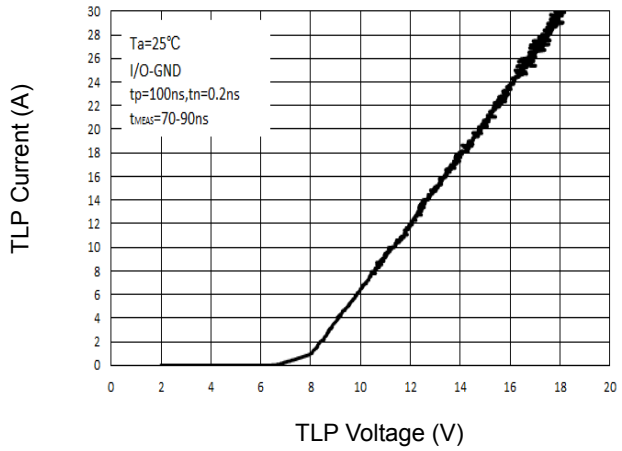
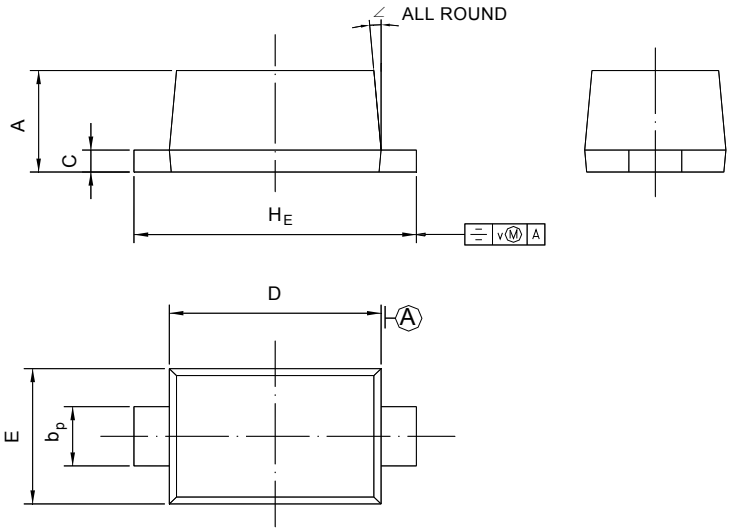


Fig. 5 TLP Curve



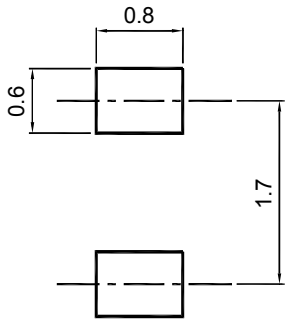
PACKAGE OUTLINE

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

" XB " = Part No.
" III " = Cathode line
Font type: Arial

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