

ESD3301WT

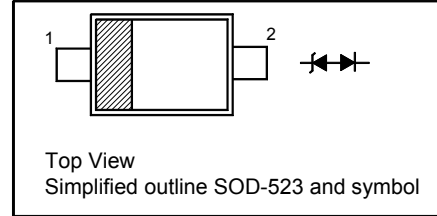
ESD Protection Diode

Features

- Protects one I/O or power line
- Low leakage current
- Low clamping voltage

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



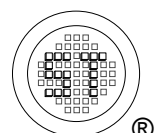
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$)	P_{PK}	40	W
Peak Pulse Current ($t_p = 8/20 \mu\text{s}$)	I_{PP}	5	A
ESD contact discharge (IEC61000-4-2) Air Contact	V_{ESD}	± 30 ± 30	KV
Operation Junction Temperature Range	T_j	- 55 to + 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}	-	-	3.3	V
Punch-Through Voltage at $I_{PT} = 2 \mu\text{A}$	V_{PT}	3.5	-	4.5	V
Snap-Back Voltage at $I_{SB} = 50 \text{ mA}$	V_{SB}	2.8	-	-	V
Reverse Current at $V_{RWM} = 3.3 \text{ V}$	I_R	-	-	150	nA
Clamping Voltage at $I_{PP} = 1 \text{ A}$, $t_p = 8/20 \mu\text{s}$ at $I_{PP} = 5 \text{ A}$, $t_p = 8/20 \mu\text{s}$	V_C	-	-	5.5 8	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}	-	5.5 9.5	-	V
Junction Capacitance at $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_j	-	-	30	pF
Dynamic Resistance ¹⁾	R_{dyn}	-	0.33	-	Ω

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



Electrical Characteristics Curves

Fig 1. Pulse Waveform

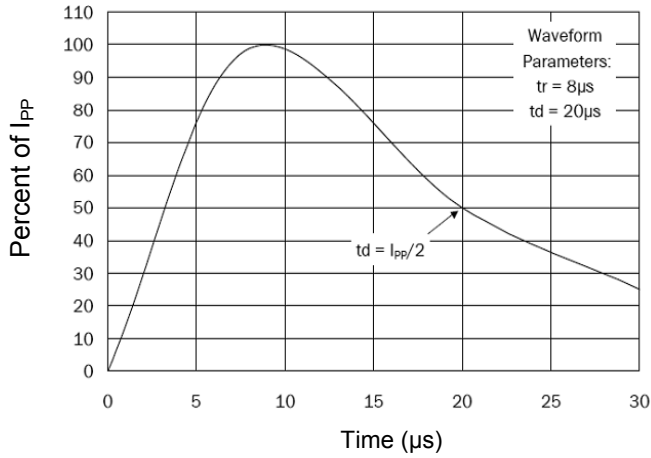


Fig 2. Power Derating Curve

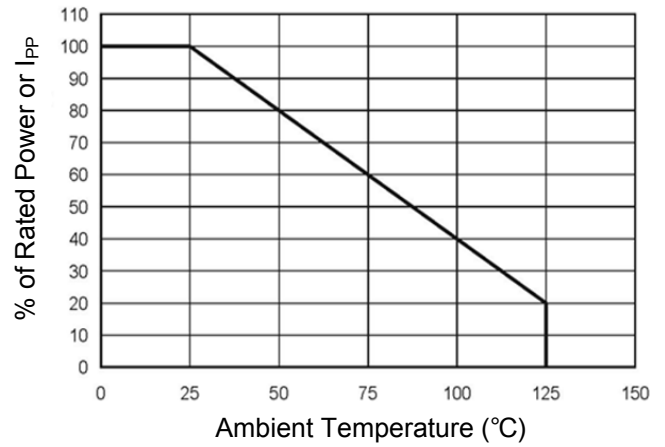


Fig 3. Clamping Voltage Curve

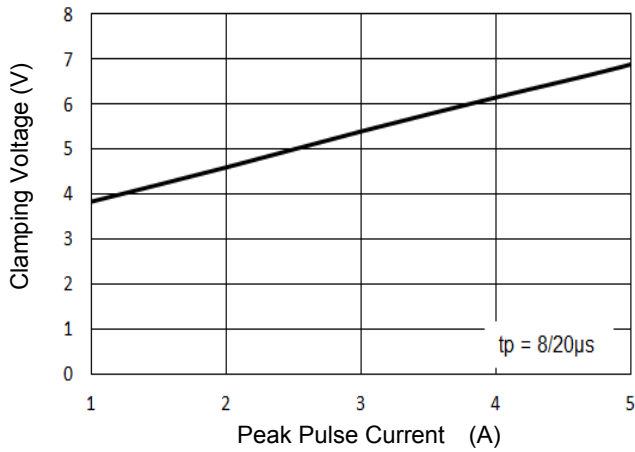


Fig 4. Junction Capacitance

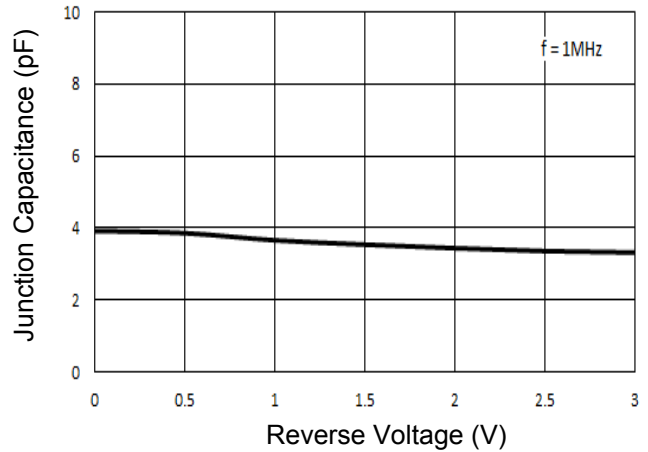


Fig. 5 TLP Curve

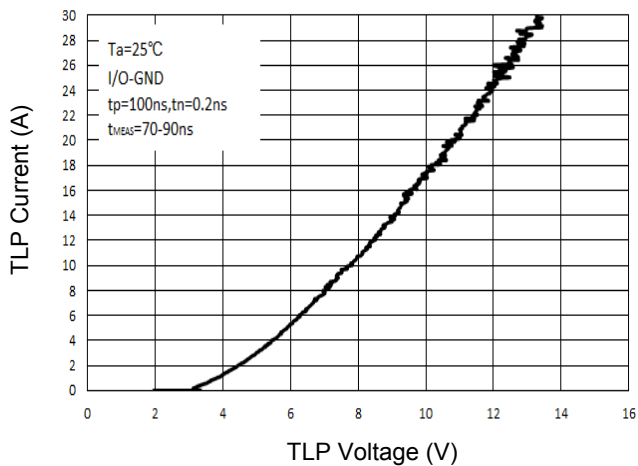
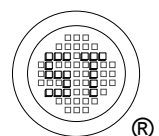
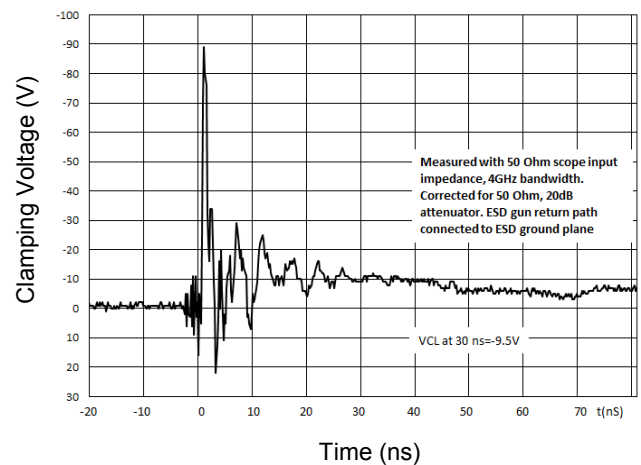


Fig. 6 Clamped - 8 kV pulse waveform

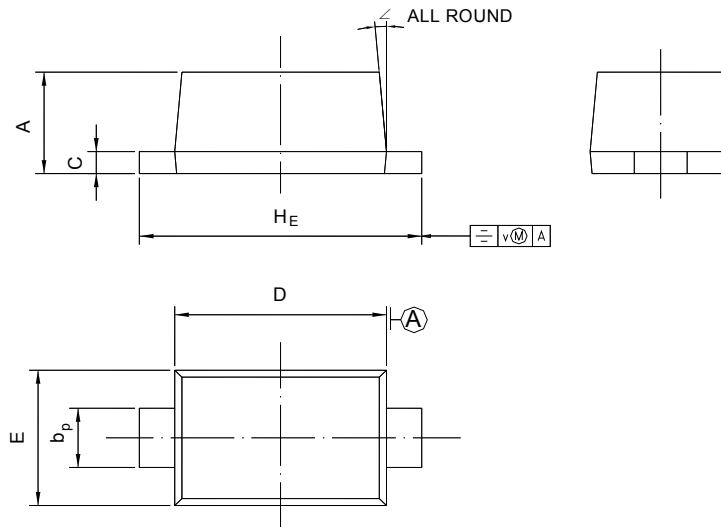


ESD3301WT

PACKAGE OUTLINE

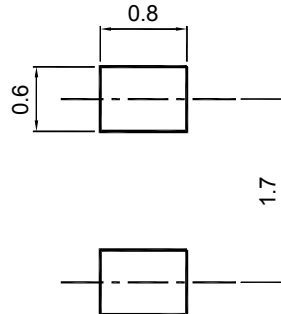
Plastic surface mounted package; 2 leads

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

" W0 " = Part No.

" III " = Cathode line

Font type: Arial

