

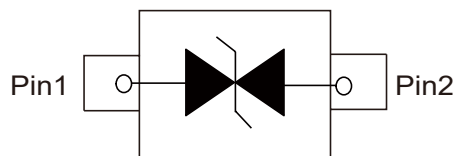
1. Description

The AR0521D5 is a bi-directional TVS diode, provide fast re-sponse time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The AR0521D5 has an ultra-low capacitance with a typical value at 0.3pF, and with $\pm 25\text{kV}$ air and $\pm 22\text{kV}$ contact discharge.

3. Features

- Ultra low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage

4. Pinning information



SOD-523

2. Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kV}$
 - Contact discharge: $\pm 22\text{kV}$
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)



5. Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Power (8/20 μs)	P_{PK}	100	W
Peak Pulse Current (8/20 μs)	I_{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 22	kV
Junction Temperature	T_J	-55 to 125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$

6. Electrical Characteristic ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6.5		9.5	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$		0.02	0.2	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}(8 \times 20\mu\text{s pulse})$			12	V
Clamping Voltage	V_C	$I_{PP}=4\text{A}(8 \times 20\mu\text{s pulse})$			25	V
Junction Capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$		0.3	0.5	pF

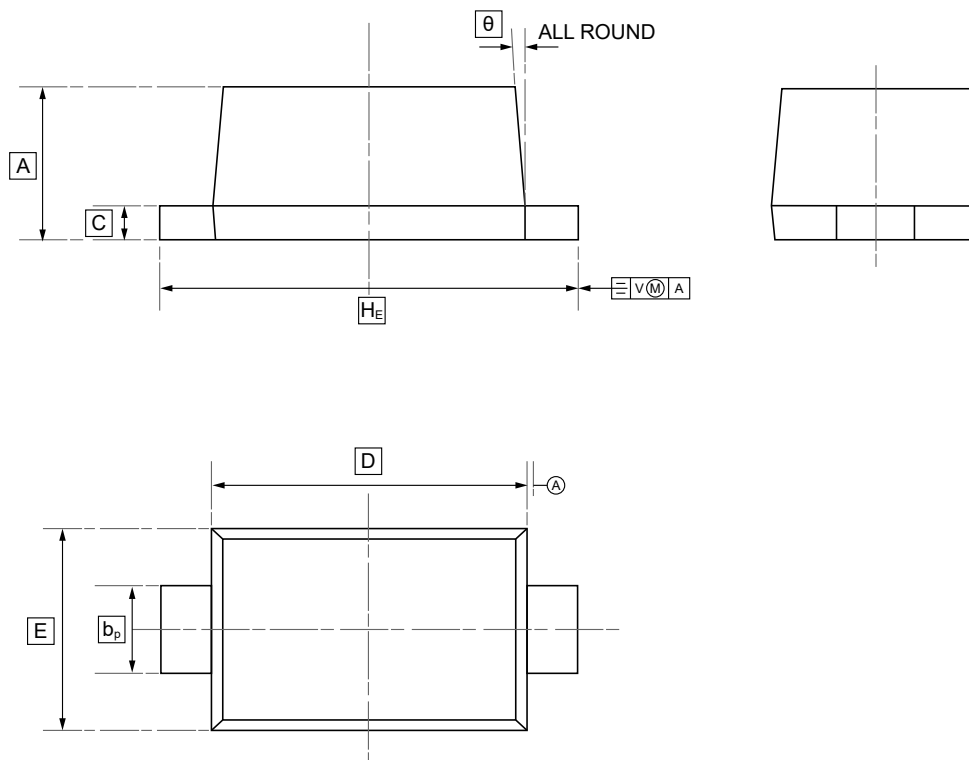


7. Typical characteristic

<p>Figure 1: Junction Capacitance vs. Reverse Voltage</p>	<p>Figure 2: Clamping Voltage vs. Peak Pulse Current</p>
<p>Figure 3: Peak Pulse Power vs. Pulse Time</p>	<p>Figure 4: IEC61000-4-2 Pulse Waveform</p>
<p>Figure 5: Power Derating Curve</p>	<p>Figure 6: Data is taken with a 10x attenuator ESD Clamping Voltage</p>



8.SOD-523 Package Outline Dimensions

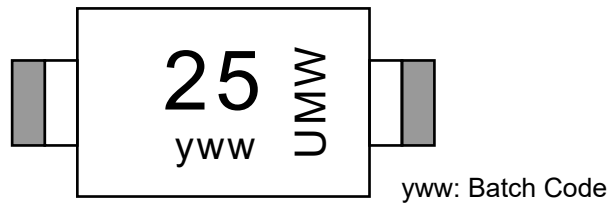


DIMENSIONS (mm are the original dimensions)

Symbol	A	b _p	C	D	E	H _E	θ
Min	0.58	0.3	0.100	1.15	0.75	1.5	5°
Max	0.68	0.4	0.135	1.25	0.85	1.7	



9. Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW AR0521D5	SOD-523	3000	Tape and reel



10.Disclaimer

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