

1. Description

The AU3321D5 is a 3.3V bi-directional ESD protection diode, utilizing leading monolithic silicon technology to provide fast response time and ultra low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. is assembled into an ul-tra-small 1.0x0.6x0.5 mm DFN lead-free package.

3. Features

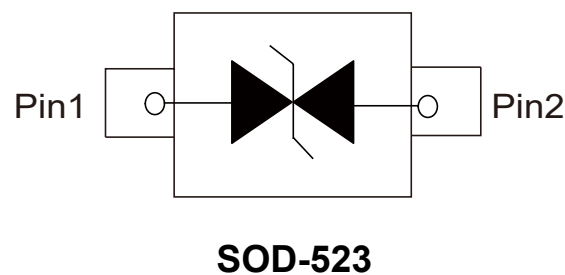
- Protects one data line
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Ultra low clamping voltage

2. Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 8A (8/20 μs)

4. Pinning information





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}	80	W
Peak Pulse Current (8/20 μs)	I_{PP}	8	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	kV
Junction Temperature Range	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}				3.3	V
Punch-Through Voltage	V_{PT}	$I_T=2\mu\text{A}$	3.8			V
Snap-Back Voltage	V_{SB}	$I_T=50\text{mA}$	3.5			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}$		0.01	0.2	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}$ (8 x 20 μs pulse)			6	V
		$I_{PP}=5\text{A}$ (8 x 20 μs pulse)			8	V
		$I_{PP}=8\text{A}$ (8 x 20 μs pulse)			10	V
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$		12.5	25	pF



7. Typical characteristic

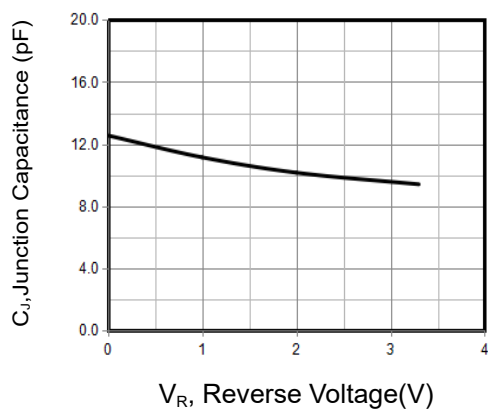


Figure 1: Junction Capacitance vs. Reverse Voltage

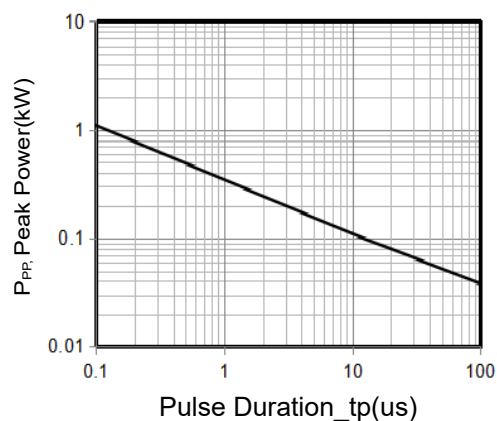


Figure 2: Clamping Voltage vs. Peak Pulse Current

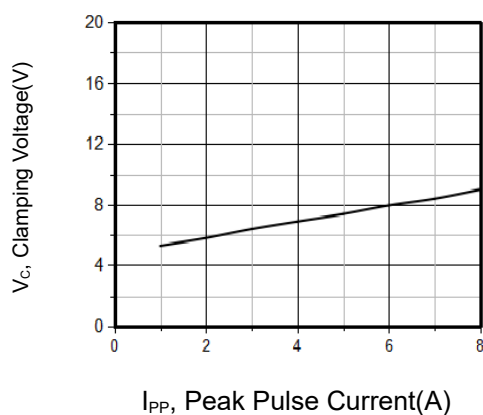


Figure 3: Peak Pulse Power vs. Pulse Time

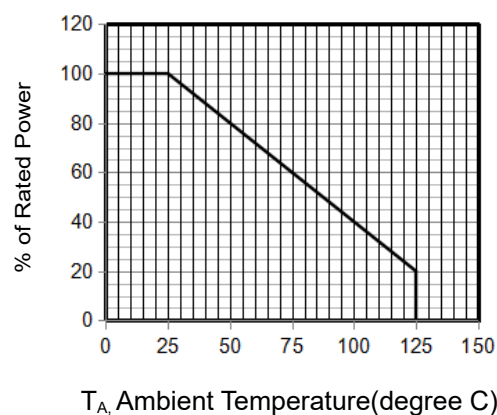


Figure 4: IEC61000-4-2 Pulse Waveform

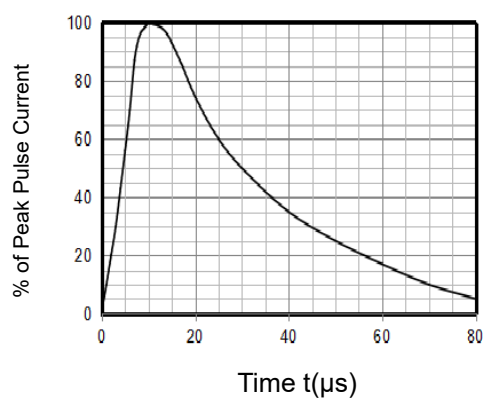
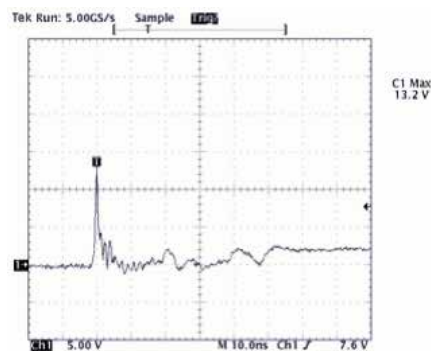
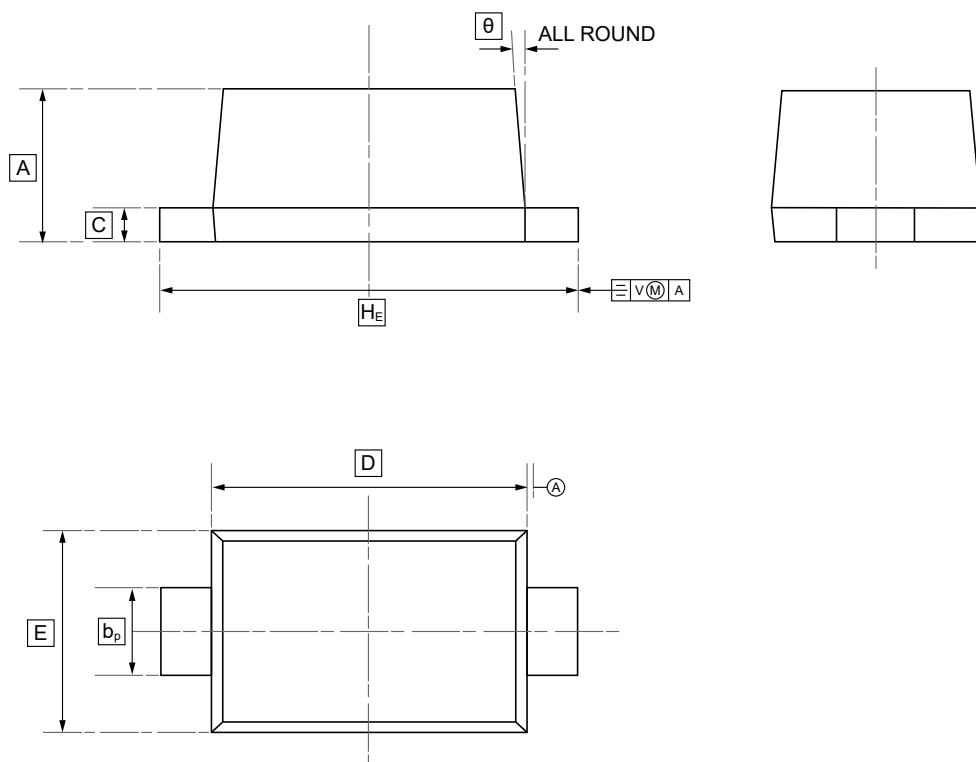


Figure 5: Power Derating Curve

Figure 6: Data is taken with a 10x attenuator
ESD Clamping Voltage



8.SOD-523 Package Outline Dimensions

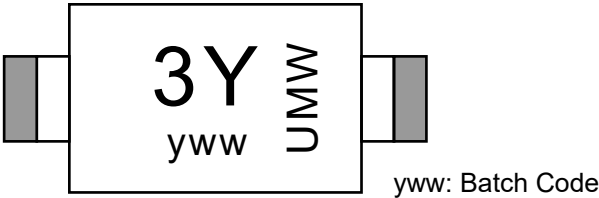


DIMENSIONS (mm are the original dimensions)

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 AU3321D5	SOD-523	3000	Tape and reel



10.Disclaimer

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