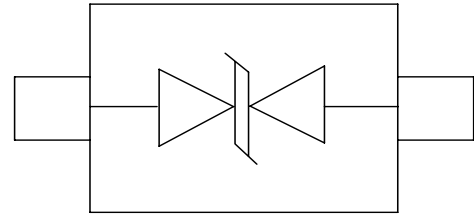


**Description**

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 1.0x0.6x0.5mm DFN lead-free package. The small size and high ESD surge protection make AU3321D5 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applica-tions.



Circuit and Pin Schematic

**Features**

- Protects one data line
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 8A (8/20µs)

**Applications**

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

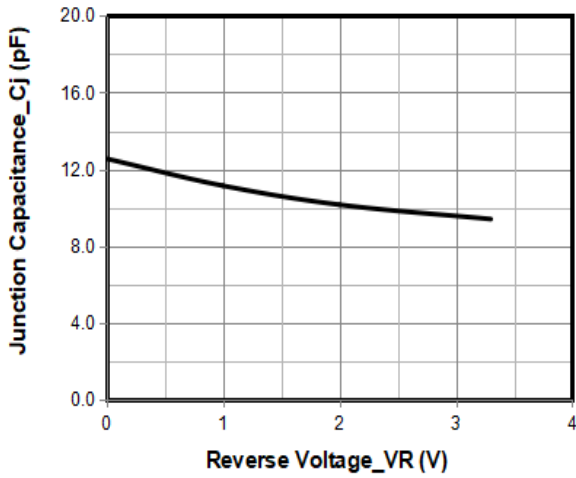
**Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	80	W
Peak Pulse Current (8/20μs)	Ipp	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

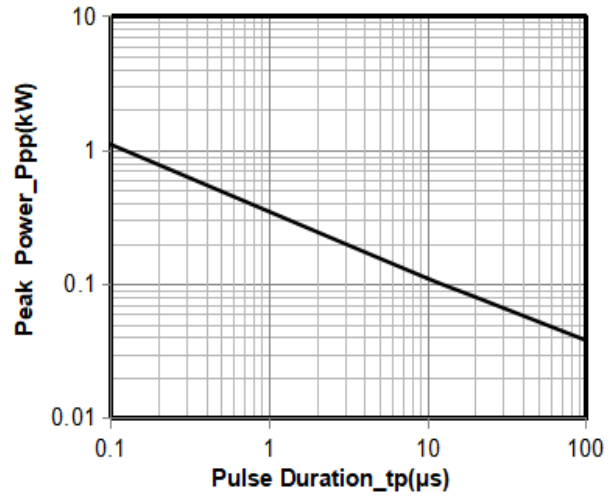
**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			3.3	V	
Punch-Through Voltage	VPT	3.8			V	IT = 2μA
Snap-Back Voltage	VSB	3.5			V	IT = 50mA
Reverse Leakage Current	IR		0.01	0.2	μA	VRWM = 3.3V
Clamping Voltage	VC			6	V	I <sub>PP</sub> = 1A (8 x 20μs pulse)
				8	V	I <sub>PP</sub> = 5A (8 x 20μs pulse)
				10	V	I <sub>PP</sub> = 8A (8 x 20μs pulse)
Junction Capacitance	CJ		12.5	25	pF	VR = 0V, f = 1MHz

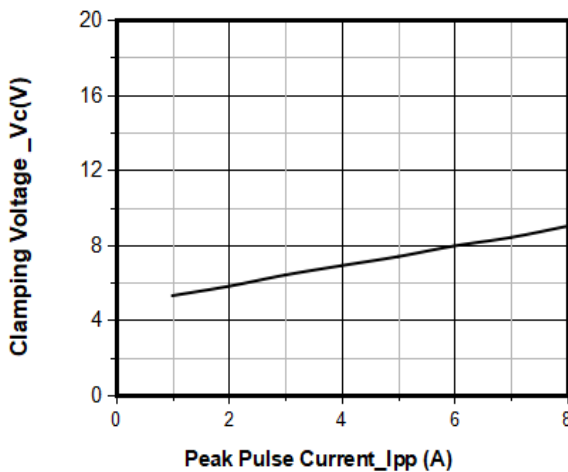
Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)



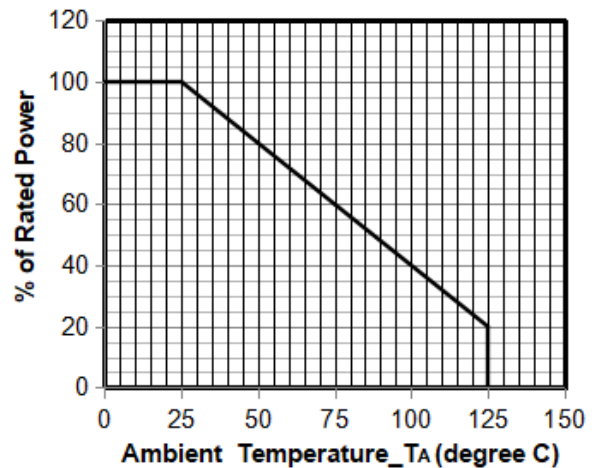
Junction Capacitance vs. Reverse Voltage



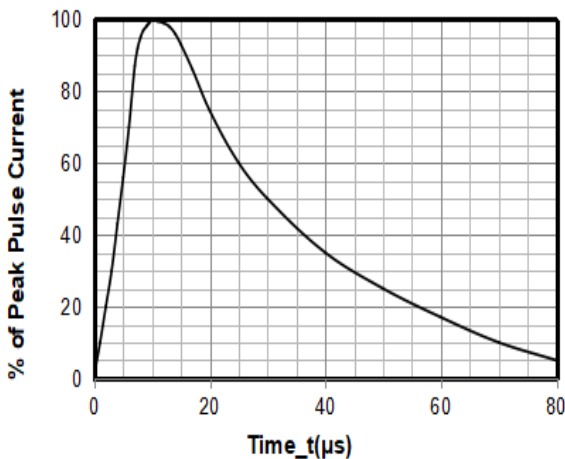
Peak Pulse Power vs. Pulse Time



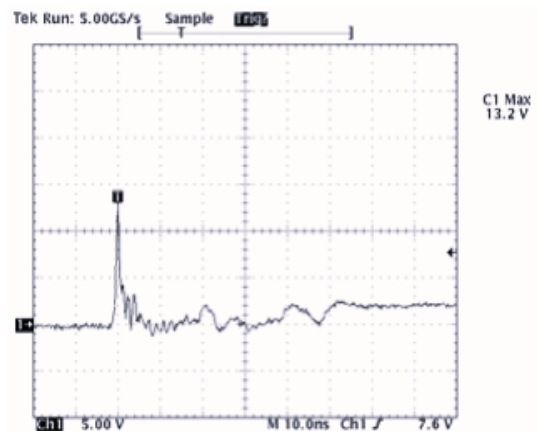
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



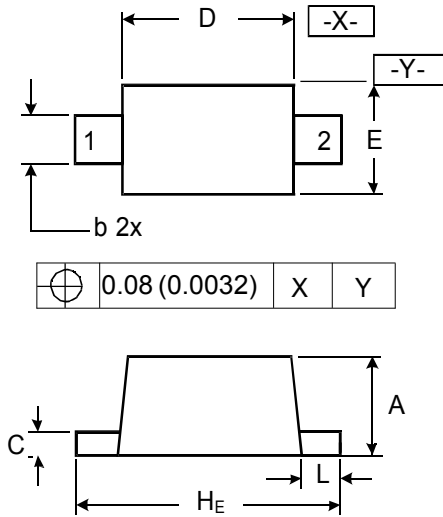
Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

**Package outline dimensions**

**SOD-523**



**DIMENSIONS**

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
C	0.07	0.20	0.0028	0.0079
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H <sub>E</sub>	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

**Marking**

**Ordering information**

Order code	Package	Base qty	Delivery mode
UMW AU3321D5	SOD-523	3000	Tape and reel

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