Description

The AU1201D9 is a Uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The AU1201D9 complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into a SOD-923 leadfree package. The small size, ultra-low capacitance and high ESD surge protection make AU1201D9 an ideal choice to protect cell phone, digital visual interfaces and other high speed ports.

Features

- Ultra low leakage: nA level
- Operating voltage: 12V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 3.5A (8/20μs)
- RoHS Compliant

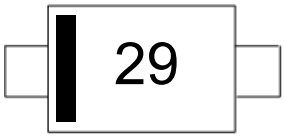
Mechanical Characteristics

- Package: SOD-923
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

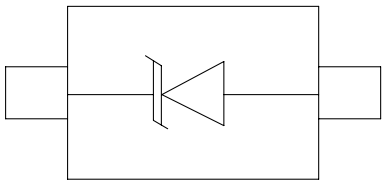
- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

Marking Information



29= Device Marking Code

Dimensions and Pin Configuration



Circuit and Pin Schematic

Ordering Information

Part Number	Packaging	Reel Size
AU1201D9	8000/Tape & Reel	7 inch

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Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

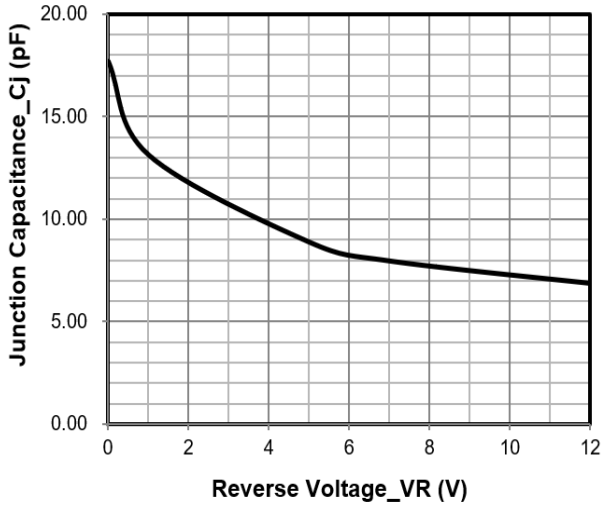
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	80	W
Peak Pulse Current (8/20μs)	I_{PP}	3.5	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

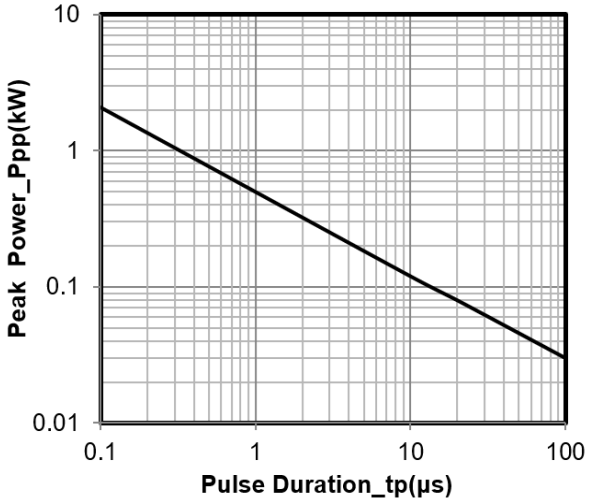
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			12	V	
Breakdown Voltage	V_{BR}	13.5			V	I_T = 1mA
Reverse Leakage Current	I_R			0.5	μA	V_{RWM} = 12V
Clamping Voltage	V_C			16	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			23	V	I_{PP} = 3.5A (8 x 20μs pulse)
Junction Capacitance	C_J		18		pF	VR = 0V, f = 1MHz

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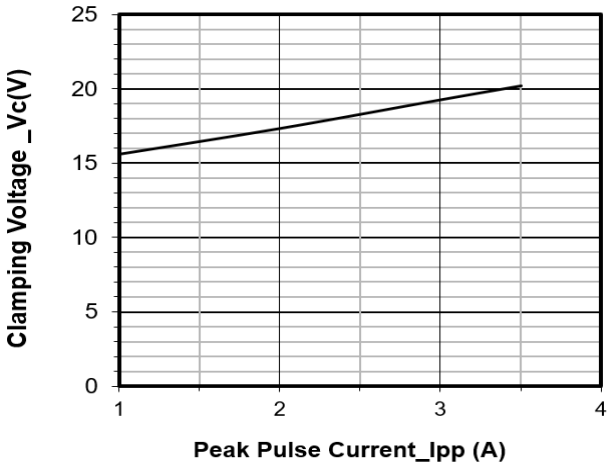
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



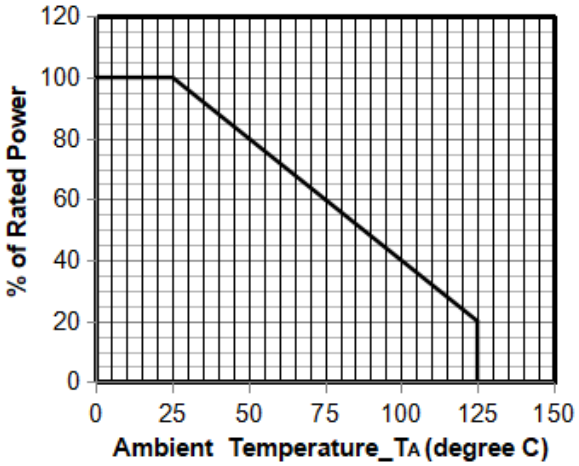
Junction Capacitance vs. Reverse Voltage



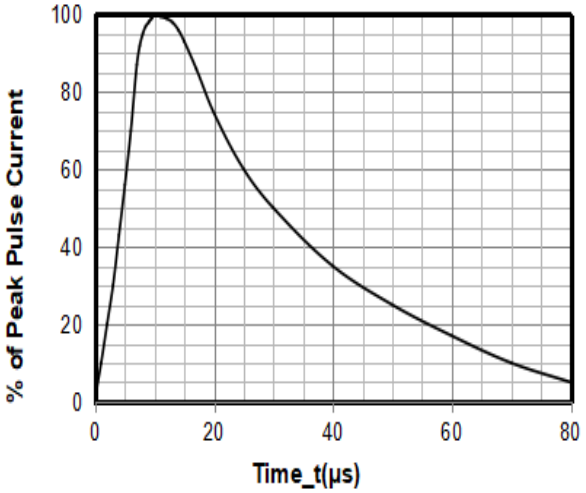
Peak Pulse Power vs. Pulse Time



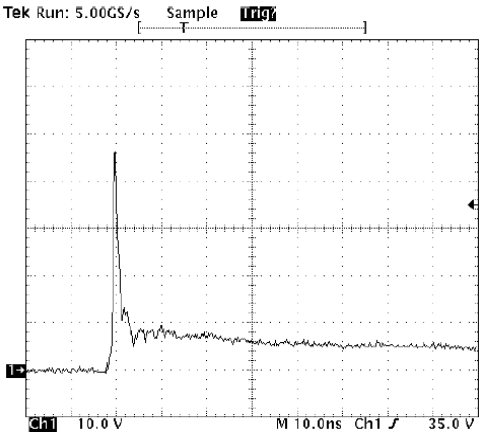
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



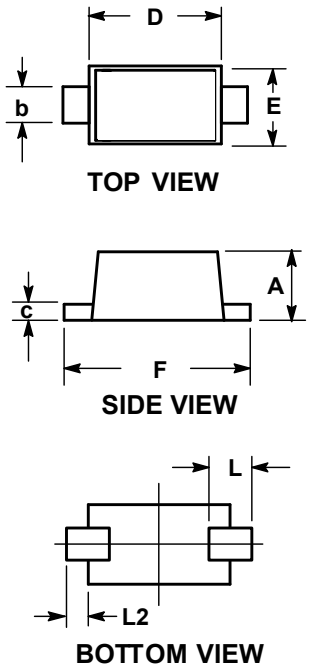
Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

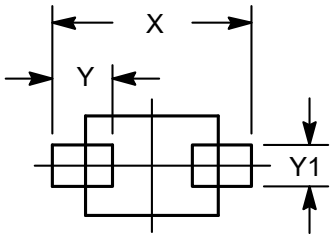
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SOD-923 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.39	0.42	0.45	0.016	0.017	0.018
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.032	0.034
E	0.55	0.60	0.65	0.022	0.024	0.026
F	0.95	1.00	1.05	0.038	0.040	0.042
L	0.19 REF			0.007 REF		
L2	0.05	0.10	0.15	0.002	0.004	0.006

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.20	0.048
Y	0.36	0.014
Y1	0.25	0.010

Contact Information

Applied Power Microelectronics Co., Ltd.

Website: http://www.appliedpowermicro.com

Email: sales@appliedpowermicro.com

Phone: +86 (0519) 8399 3606

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