Description

The AU1571D3 is an uni-directional high power 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 data and power line. The AU1571D3 complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into an ultra-small lead -free SOD-323 package. The small size and high ESD surge protection make AU1571D3 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

- Small SOD-323 package
- Protects one data or power line
- Operating Voltage: 15V
- High peak pulse current capability
- 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) 60A (8/20μs)
- RoHS Compliant

Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

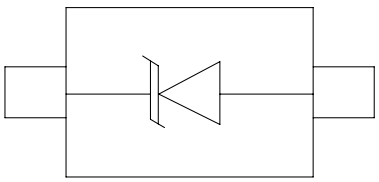
- Mobile Phones and Accessories
- Battery Protection
- Power Supply Protection
- Hand Held Portable Applications
- Peripherals

Marking Information

75D= Device Marking Code

Bar denotes Cathode

Dimensions and Pin Configuration



SOD-323 (Top View)

Circuit Diagram

Ordering Information

Part Number	Packaging	Reel Size
AU1571D3	3000/Tape & Reel	7 inch

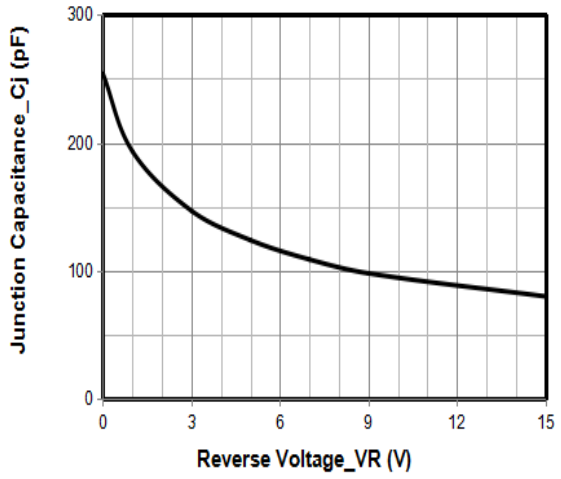
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	2000	W
Peak Pulse Current (8/20μs)	Ipp	60	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

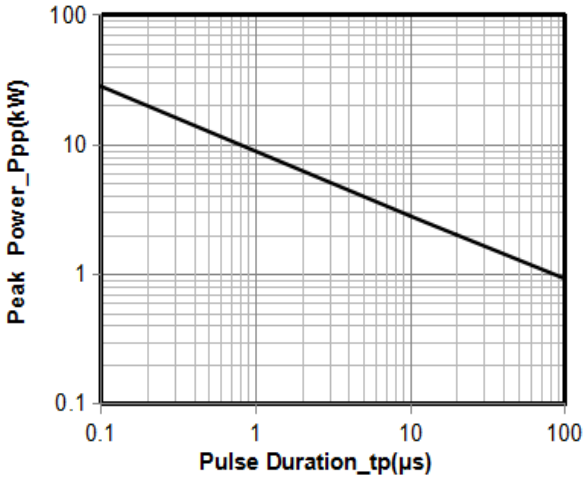
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			15	V	
Breakdown Voltage	V_{BR}	16.5			V	I_T = 1mA
Reverse Leakage Current	I_R			1	μA	V_{RWM} = 15V
Clamping Voltage	V_C			20	V	I_{PP} = 20A (8 x 20μs pulse)
Clamping Voltage	V_C			33	V	I_{PP} = 60A (8 x 20μs pulse)
Junction Capacitance	C_J			450	pF	VR = 0V, f = 1MHz

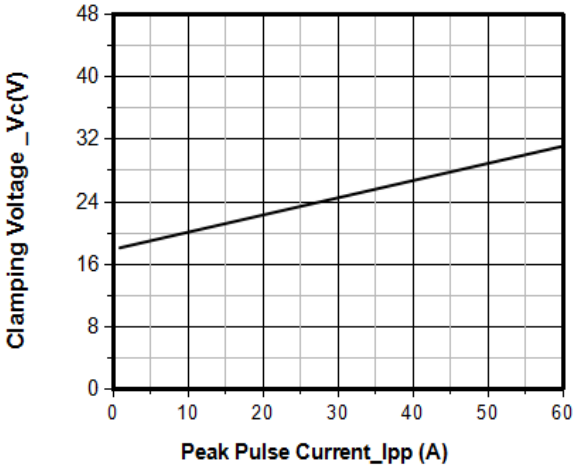
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



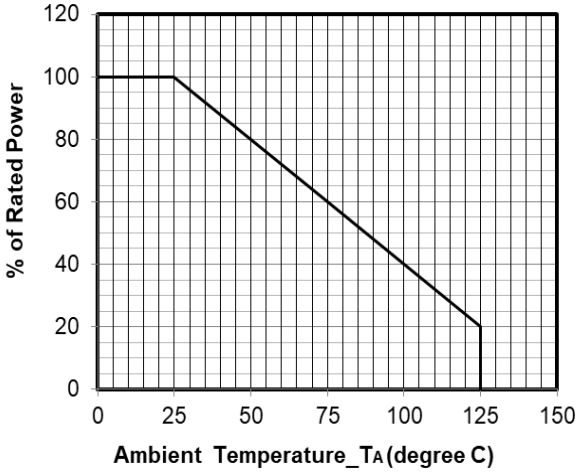
Junction Capacitance vs. Reverse Voltage



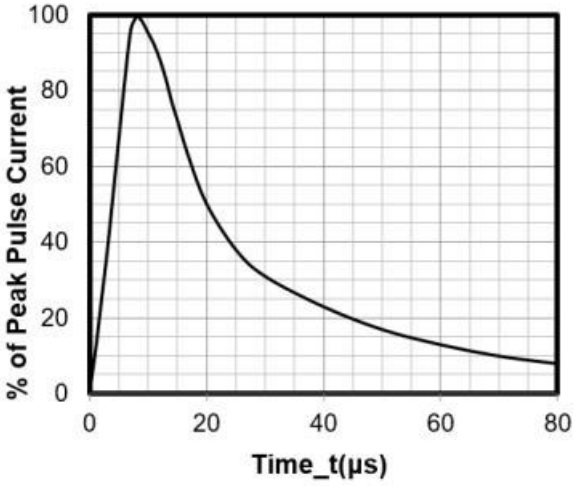
Peak Pulse Power vs. Pulse Time



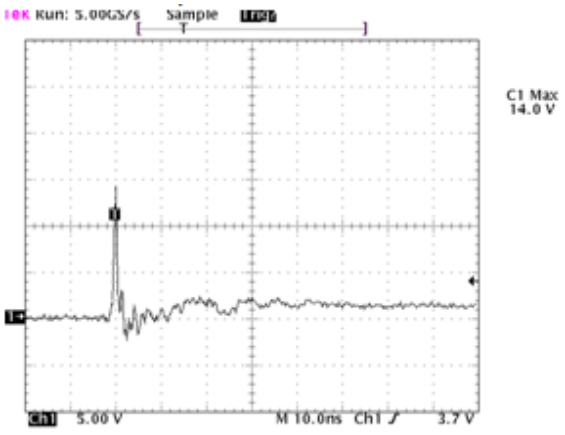
Clamping Voltage vs. Peak Pulse Current (tp = 8/20μs)



Power Derating Curve



8 X 20μs Pulse Waveform

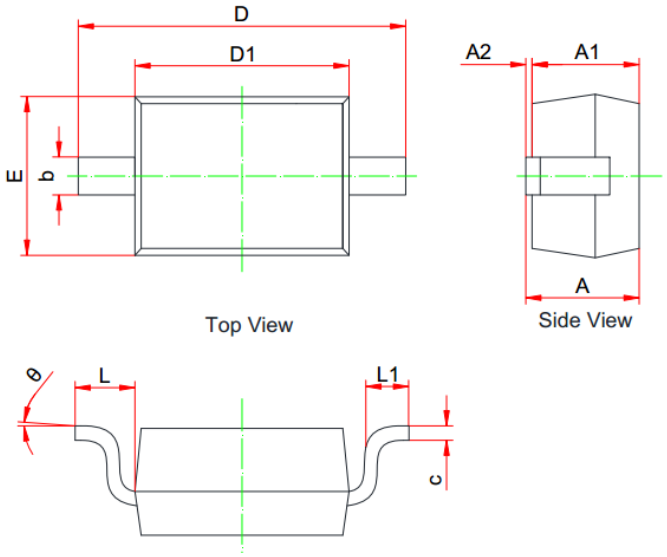


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

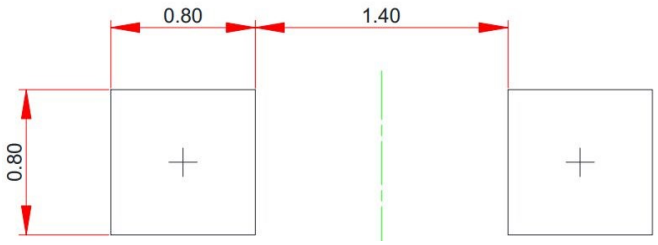
8 kV Contact per IEC61000−4−2

SOD-323 Package Outline Drawing



	MILLIMETERS		
	MIN	NOM	MAX
A	0.800	- -	1.100
A1	0.800	- -	0.900
A2	0.000	- -	0.100
b	0.250	- -	0.400
c	0.080	- -	0.177
D1	1.600	1.700	1.800
D	2.300	- -	2.800
E	1.150	- -	1.400
L	0.475REF		
L1	0.100	- -	0.500
Θ	0°	- -	8°

Suggested Land Pattern



Unit：mm

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