AU0751D3
Uni-directional 7V High Capacitance TVS Protector

Description

The AU0751D3 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 AU0751D3 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 AU0751D3 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: 7. 0V
- 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) 75A (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

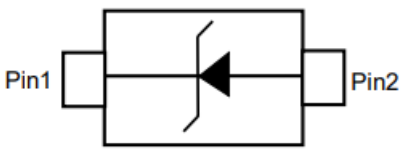
Applications

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

Marking Information

07D = Device Marking Code
Bar denotes cathode

Dimensions and Pin Configuration



Circuit Diagram

Ordering Information

Part Number	Packaging	Reel Size
AU0751D3	3000/Tape & Reel	7 inch

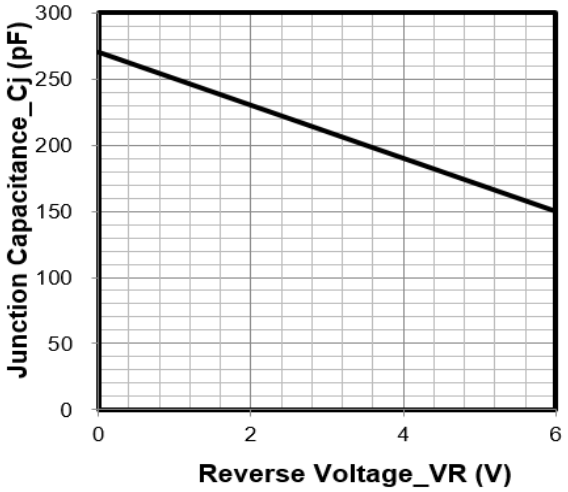
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	1500	W
Peak Pulse Current (8/20μs)	Ipp	75	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

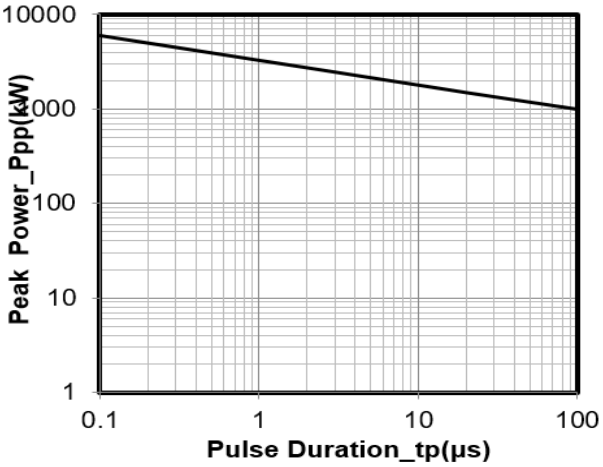
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			7	V	
Breakdown Voltage	V_{BR}	7.5			V	I_T = 1mA
Reverse Leakage Current	I_R			0.2	μA	V_{RWM} = 7V
Forward Voltage	V_F			1.2	V	I_F = 10mA
Clamping Voltage	V_C			10	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			20	V	I_{PP} = 75A (8 x 20μs pulse)
Junction Capacitance	C_J		270		pF	VR = 0V, f = 1MHz

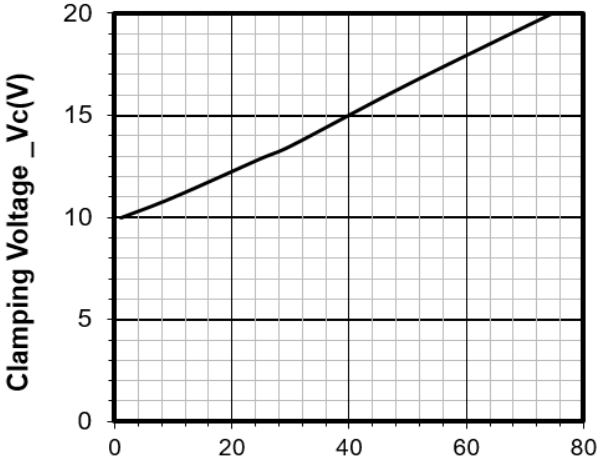
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



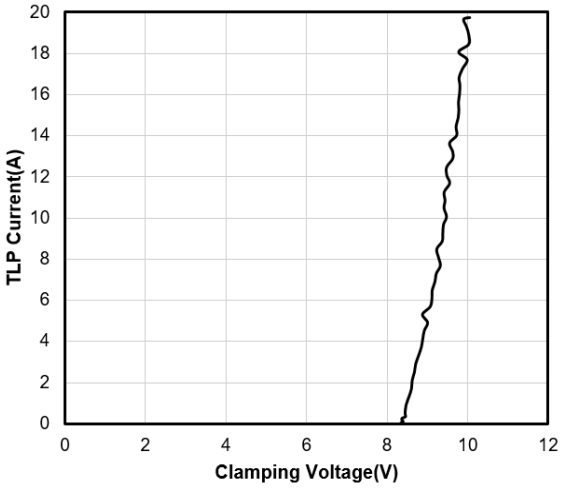
Junction Capacitance vs. Reverse Voltage



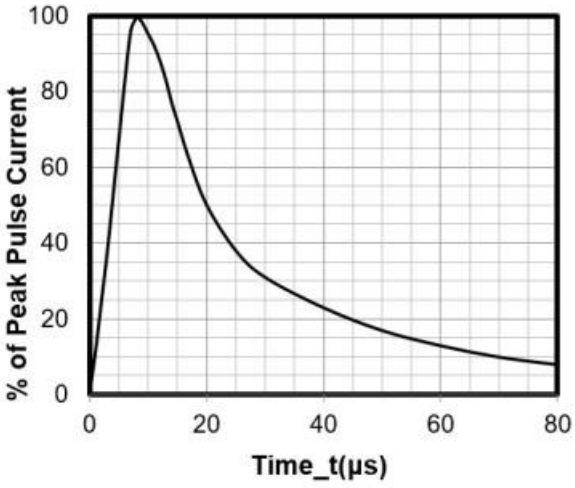
Peak Pulse Power vs. Pulse Time



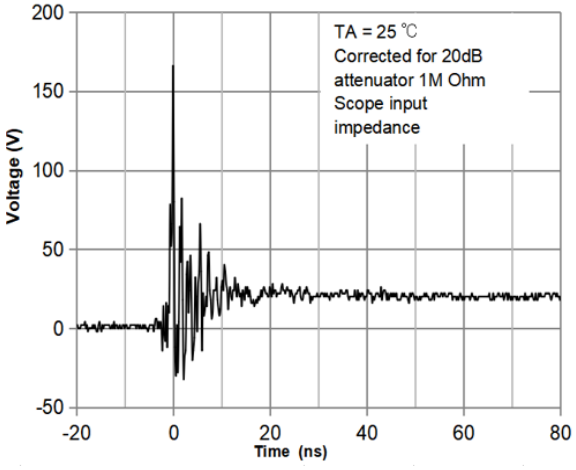
Clamping Voltage vs. Peak Pulse Current



TLP Curve



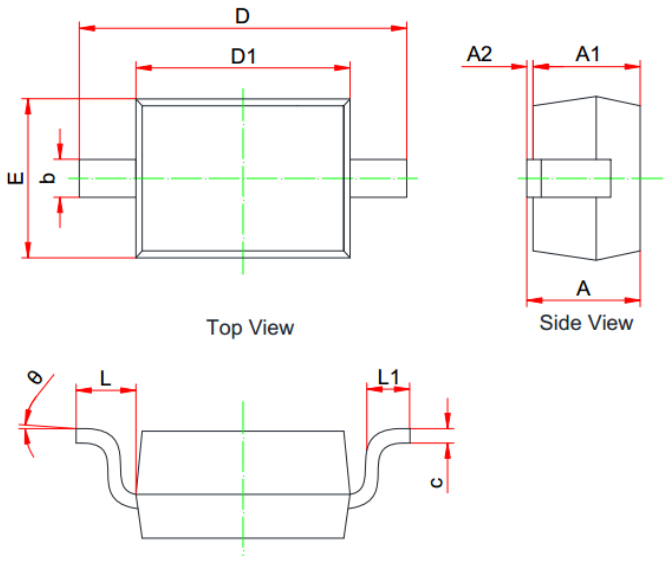
8 X 20μs Pulse Waveform



ESD Clamping Voltage

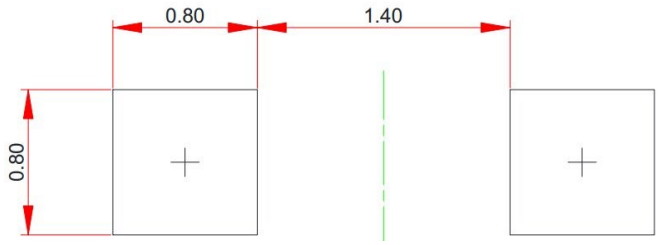
8 kV Contact per IEC61000−4−2

SOD-323 Package Outline Drawing



SYM	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



单位（mm）

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