

Description

The AU3601D5 is an uni-directional TVS 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. The AU3601D5 complies with the IEC 61000-4-2 (ESD) with $\pm 20\text{kV}$ air and $\pm 20\text{kV}$ contact discharge. It is assembled into an ultra-small SOD-523 lead-free package. The small size and high ESD surge protection make AU3601D5 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

- Protects one line
- Ultra low leakage: nA level
- Operating voltage: 36V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 20\text{kV}$
Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- RoHS Compliant

Mechanical Characteristics

- Package: SOD-523
- Case Material: “Green” Molding Compound.
- Lead Finish: Matte Tin
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks, Desktops, Servers
- Portable Instrumentation
- Digital Cameras
- Analog Inputs
- Audio Players
- Keypads, Side Keys, LCD Displays
- Laser Diode Protection

Marking Information

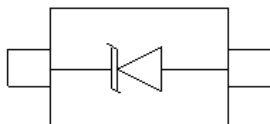


36E = Device Marking Code
 Bar denotes cathode

Ordering Information

Part Number	Packaging	Reel Size
AU3601D5	3000/Tape & Reel	7 inch

Dimensions and Pin Configuration



SOD-523 (Top View)

Circuit and Pin Schematic

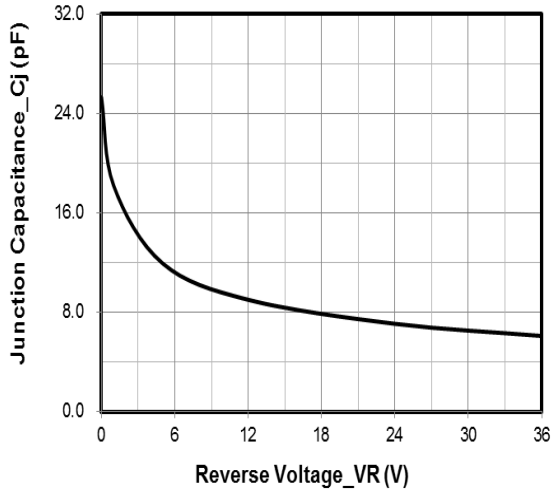
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	300	W
Peak Pulse Current (8/20 μs)	Ipp	4	A
ESD per IEC 61000-4-2 (Air)	VESD	± 20	kV
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

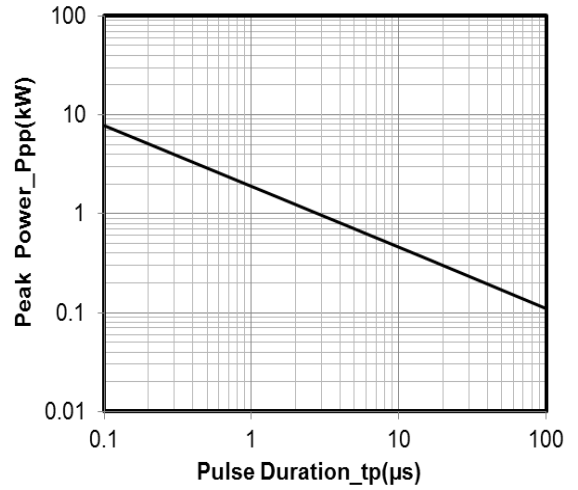
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			36	V	
Breakdown Voltage	VBR	38			V	IT = 1mA
Reverse Leakage Current	IR			0.2	μA	VRWM = 36V
Clamping Voltage	VC			50	V	I _{PP} = 1A (8 x 20 μs pulse)
Clamping Voltage	VC			75	V	I _{PP} = 4A (8 x 20 μs pulse)
Junction Capacitance	CJ			30	pF	VR = 0V, f = 1MHz

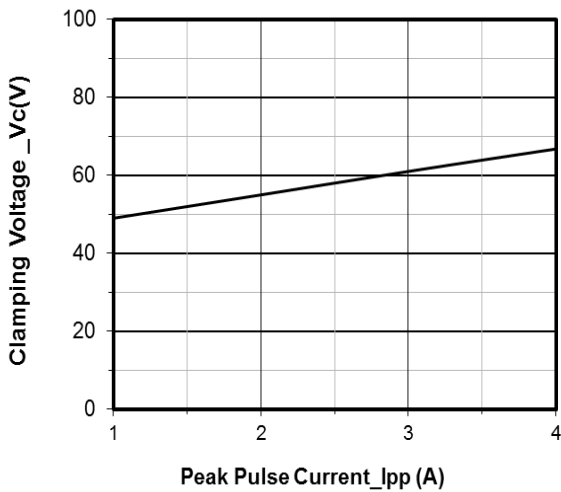
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



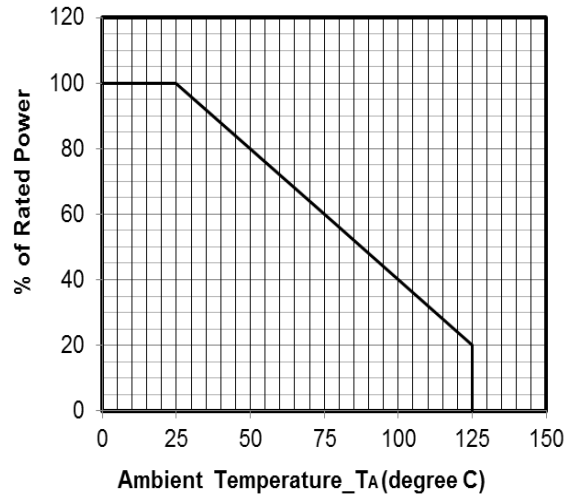
Junction Capacitance vs. Reverse Voltage



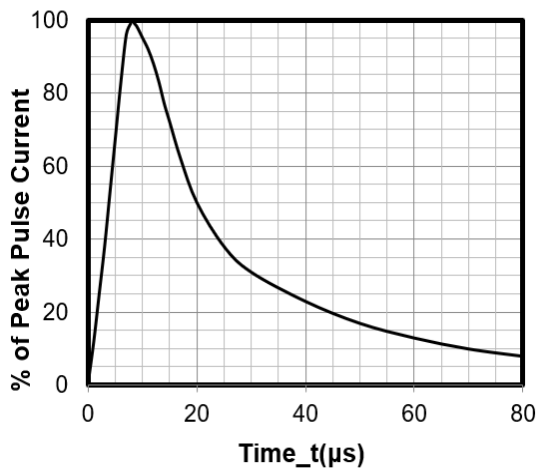
Peak Pulse Power vs. Pulse Time



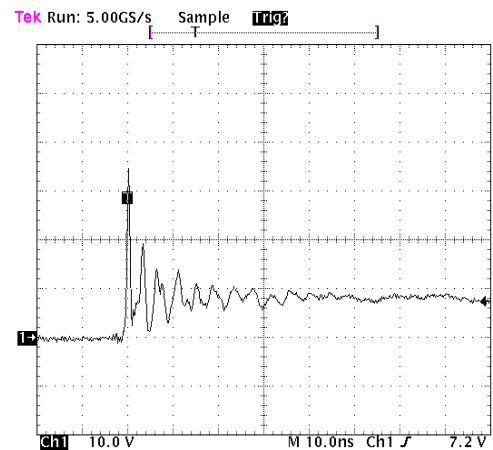
Clamping Voltage vs. Peak Pulse Current



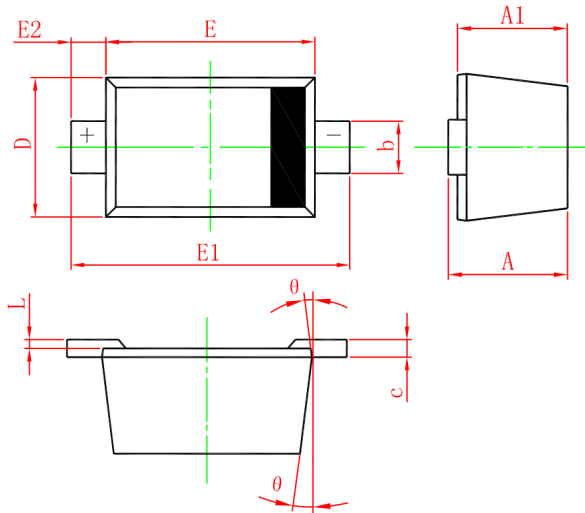
Power Derating Curve



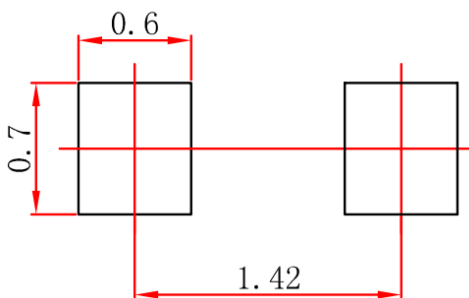
8 X 20μs Pulse Waveform



**Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
+8 kV Contact per IEC61000-4-2**

SOD-523 Package Outline Drawing


SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.51	--	0.77	0.020	--	0.031
A1	0.50	--	0.70	0.020	--	0.028
b	0.25	--	0.35	0.010	--	0.014
c	0.08	--	0.15	0.003	--	0.006
D	0.75	--	0.85	0.030	--	0.033
E	1.10	--	1.30	0.043	--	0.051
E1	1.50	--	1.70	0.059		0.067
E2	0.20REF			0.008REF		
L	0.01	--	0.07	0.001	--	0.003
Θ	7° REF			7° REF		

Suggested Land Pattern


Unit: mm

Contact Information

Applied Power Microelectronics Inc.
 Website: <http://www.appliedpowermicro.com>
 Email: sales@appliedpowermicro.com
 Phone: +86 (0519) 8399 3606