

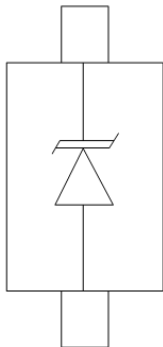
### Description

The AU0571D1F is an 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 data and power lines. The AU0571D1F complies with the IEC 61000-4-2 (ESD) with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. It is assembled into a SOD-123FL lead-free package. The small size and high ESD/surge protection make AU0571D1F an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

### Features

- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 5V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning) 180A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Pin Configuration



Circuit and Pin Schematic

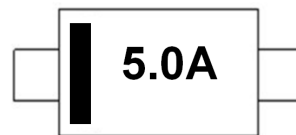
### Mechanical Characteristics

- Package: SOD-123FL
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below

### Applications

- Fast-charge battery chargers
- Power management system
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

### Marking Information



KE= Device Marking Code  
 Bar denotes cathode

### Ordering Information

Part Number	Packaging	Reel Size
AU0571D1F	3000/Tape & Reel	7 inch

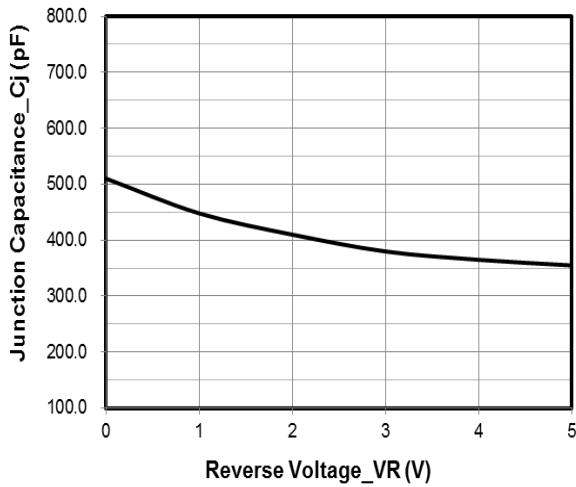
**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	3600	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	Ipp	180	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

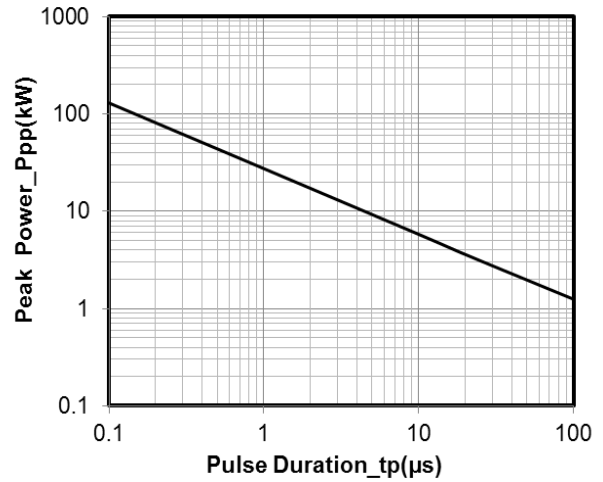
**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6.4			V	IT = 1mA
Reverse Leakage Current	IR			1	$\mu\text{A}$	VRWM = 5V
Clamping Voltage	VC			9	V	I <sub>PP</sub> = 5A (8 x 20 $\mu\text{s}$ pulse)
Clamping Voltage	VC		20	25	V	I <sub>PP</sub> = 180A (8 x 20 $\mu\text{s}$ pulse)
Junction Capacitance	CJ			800	pF	VR = 0V, f = 1MHz

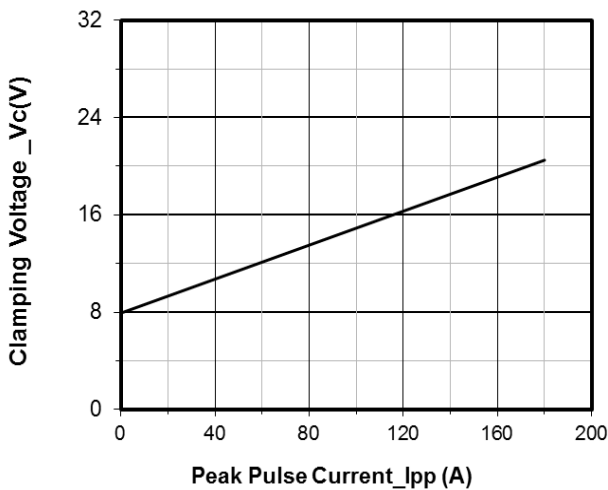
**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**



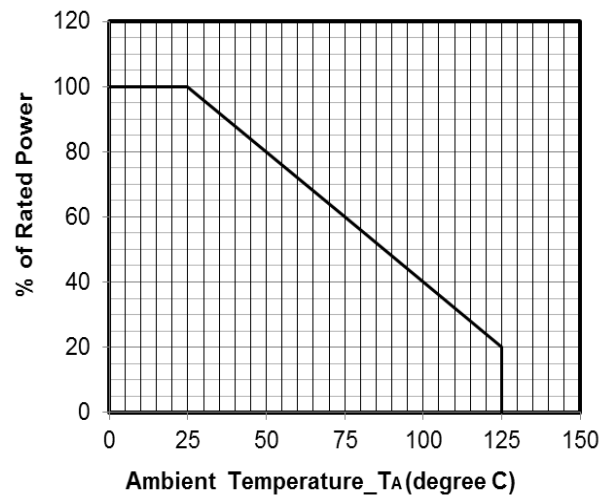
**Junction Capacitance vs. Reverse Voltage**



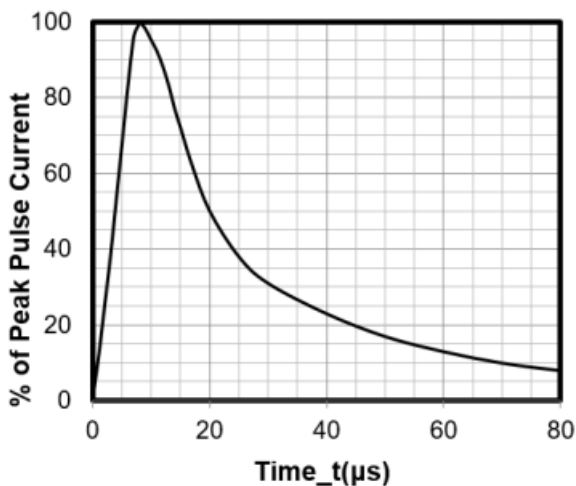
**Peak Pulse Power vs. Pulse Time**



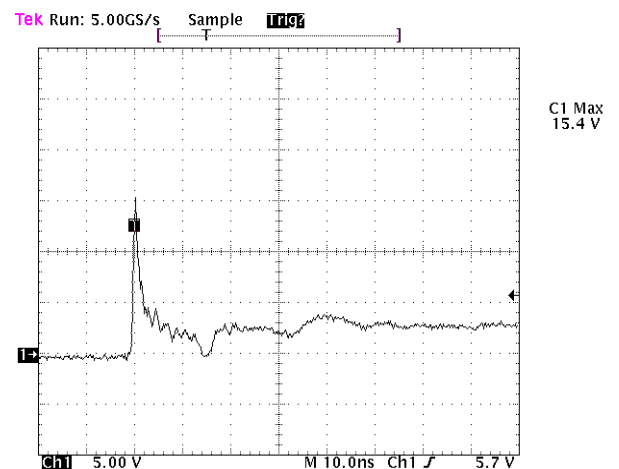
**Clamping Voltage vs. Peak Pulse Current**



**Power Derating Curve**

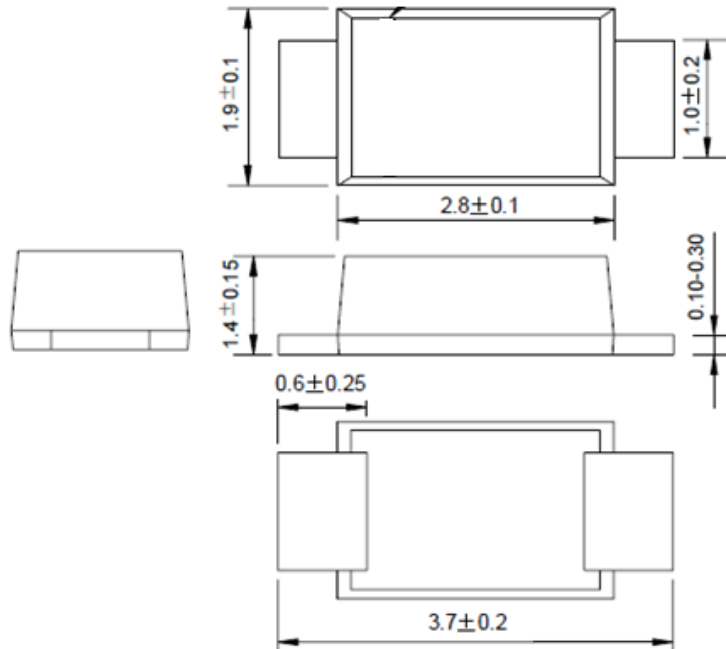


**8 X 20 $\mu\text{s}$  Pulse Waveform**



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

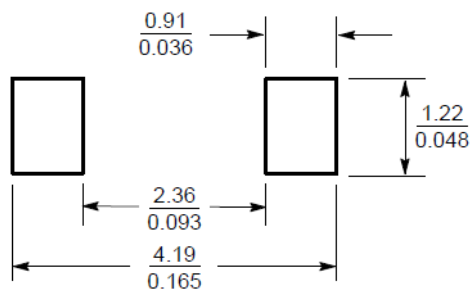
**SOD-123FL Package Outline Drawing**



Dimen-

sions in millimeters

**Suggested Land Pattern**



SCALE 10:1 ( $\frac{\text{mm}}{\text{inches}}$ )

**Contact Information**

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