Description

The AU2471D1F-T is an un-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 AU2471D1F-T complies with the IEC 61000-4-2 (ESD) with ± 30kV air and ± 30kV contact discharge. It is assembled into a SOD-123FL lead -free package. The small size and high ESD/surge protection make AU2471D1F-T 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: 24V
- 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) 200A (8/20μs)
- RoHS Compliant

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

24A= Device Marking Code
Bar denotes cathode

Pin Configuration

Circuit and Pin Schematic

Ordering Information

Part Number	Packaging	Reel Size
AU2471D1F-T	3000/Tape & Reel	7 inch

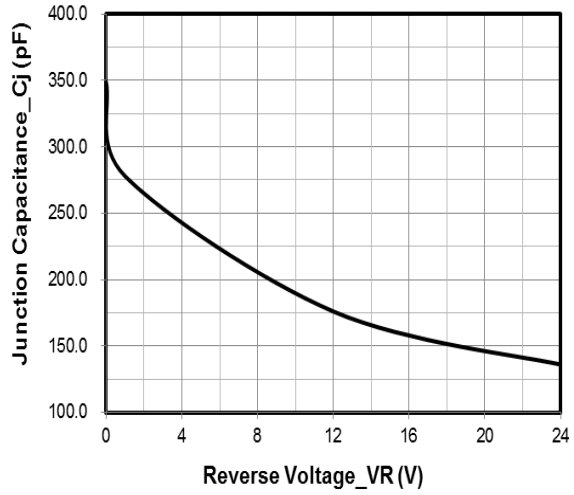
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	6500	W
Peak Pulse Current (8/20μs)	Ipp	200	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

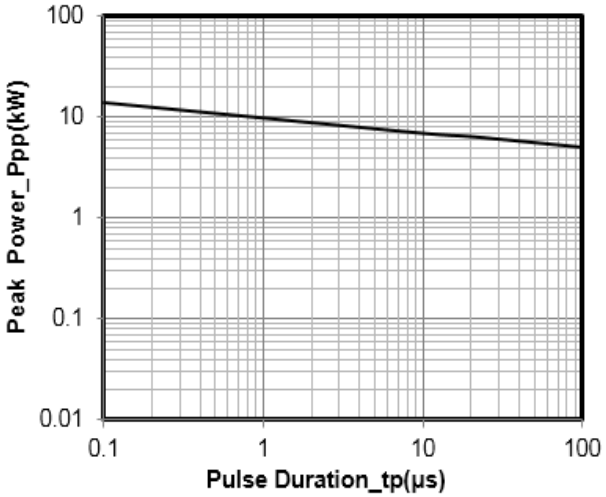
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			24	V	
Breakdown Voltage	V_{BR}	25			V	I_T = 1mA
Reverse Leakage Current	I_R			1.0	μA	V_{RWM} = 24V
Clamping Voltage	V_C		32		V	I_{PP} = 200A (8 x 20μs pulse)
Junction Capacitance	C_J		360		pF	VR = 0V, f = 1MHz

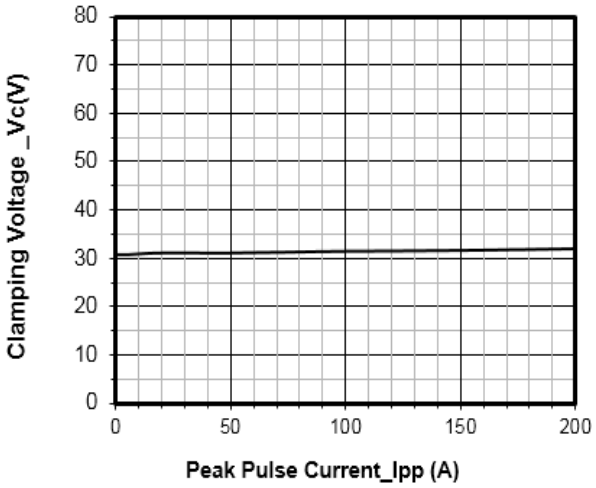
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



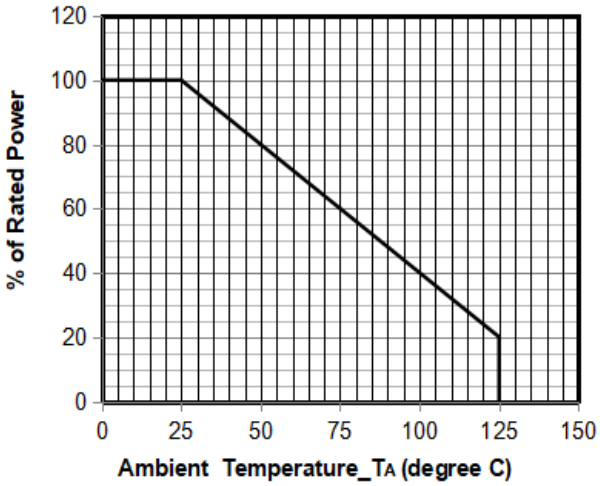
Junction Capacitance vs. Reverse Voltage



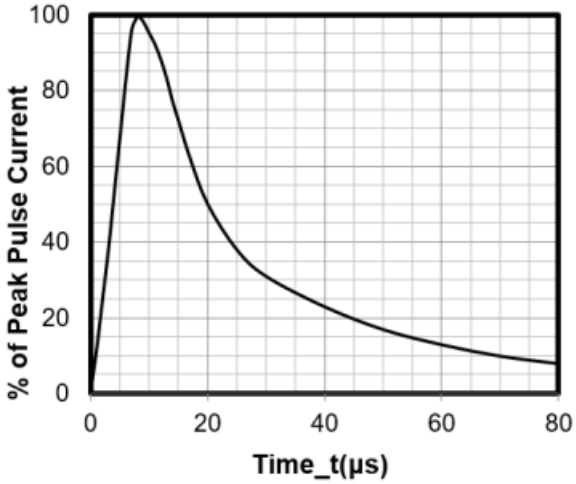
Peak Pulse Power vs. Pulse Time



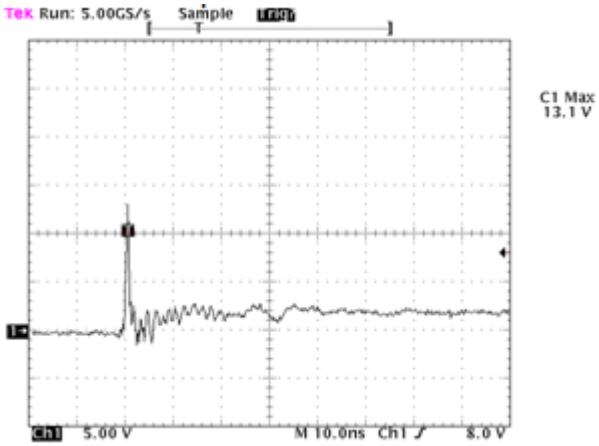
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

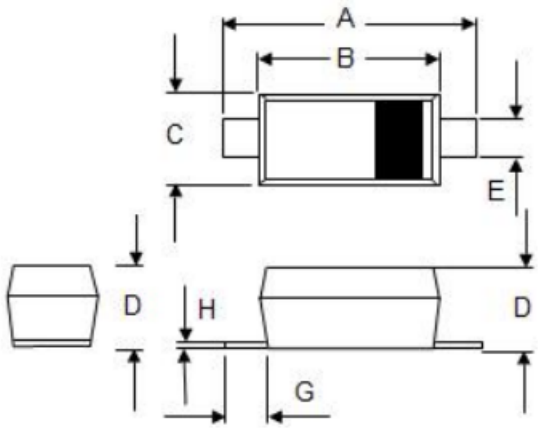


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

SOD-123FL Package Outline Drawing



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	3.40	3.95	0.142	0.155
B	2.50	2.90	0.098	0.114
C	1.40	1.95	0.055	0.077
D	0.80	1.20	0.031	0.048
E	0.50	1.10	0.020	0.043
G	0.25	------	0.010	----
H	------	0.20	----	0.008

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