

Description

The AU1531FP 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 line. The AU1531FP complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. The small size and high ESD surge protection make AU1531FP an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

- Ultra small package: 1.6x0.8x0.5mm
- Ultra low leakage: nA level
- Operating voltage: 15V
- Low clamping voltage
- 2-Pin leadless package
- 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) 20A (8/20 μs)
- RoHS Compliant

Mechanical Characteristics

- Package: FBP1608-2L
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

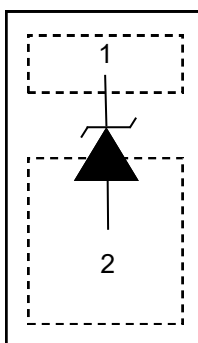
Marking Information



H6: Device Marking Code
 Bar denotes cathode

Ordering Information

Dimensions and Pin Configuration



FBP1608-2L(Top View)

Part Number	Packaging	Reel Size
AU1531FP	10000/Tape & Reel	7 inch

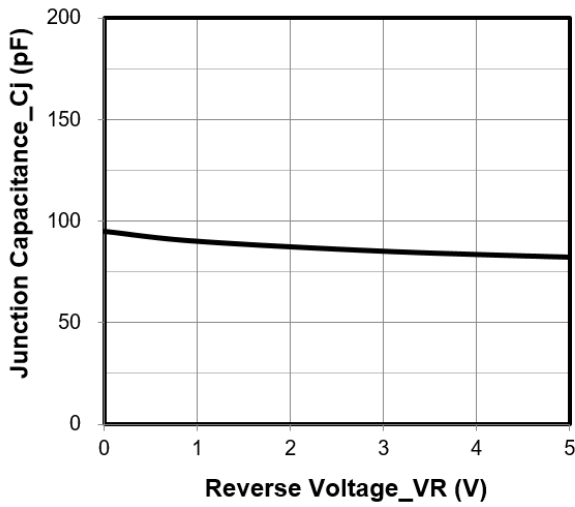
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	700	W
Peak Pulse Current (8/20 μs)	Ipp	20	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

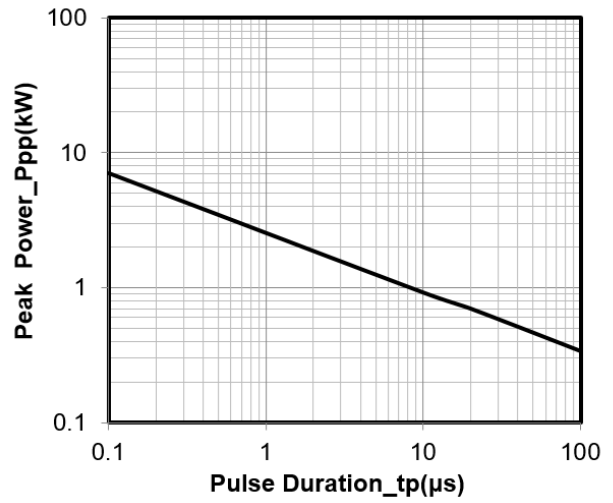
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			15	V	Pin 1 to Pin 2
Breakdown Voltage	VBR	16.5			V	$I_T = 1\text{mA}$, Pin 1 to Pin 2
Reverse Leakage Current	I_R			0.5	μA	VRWM = 15V, Pin 1 to Pin 2
Forward Voltage	VF			1.2	V	$I_F = 10\text{mA}$, Pin 2 to Pin 1
Clamping Voltage	VC			22	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse), Pin 1 to Pin 2
Clamping Voltage	VC			35	V	$I_{PP} = 20\text{A}$ (8 x 20 μs pulse), Pin 1 to Pin 2
Junction Capacitance	CJ		100		pF	VR = 0V, f = 1MHz

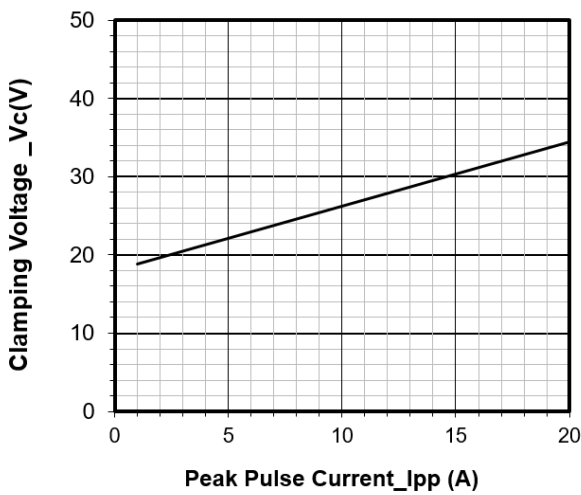
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



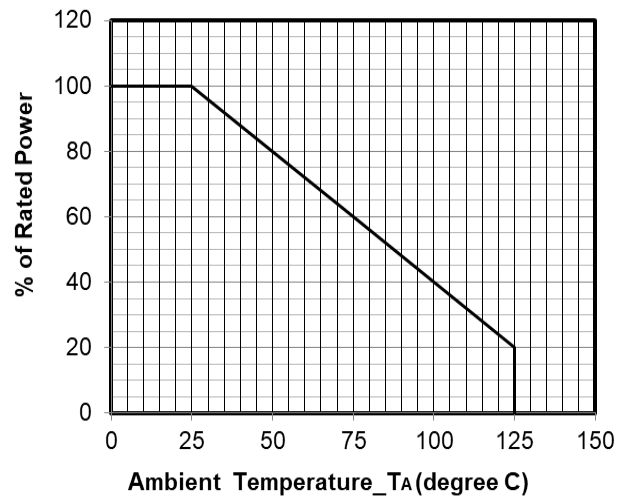
Junction Capacitance vs. Reverse Voltage



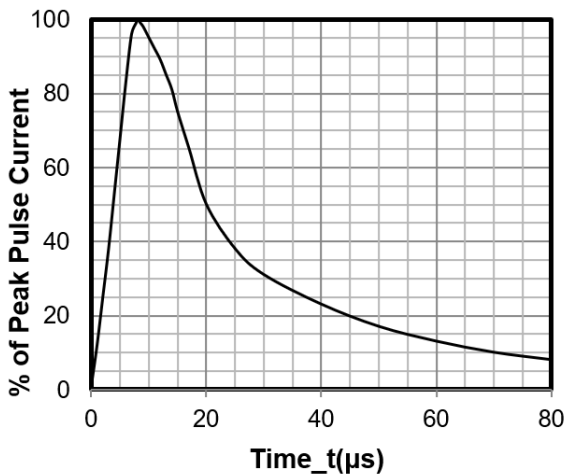
Peak Pulse Power vs. Pulse Time



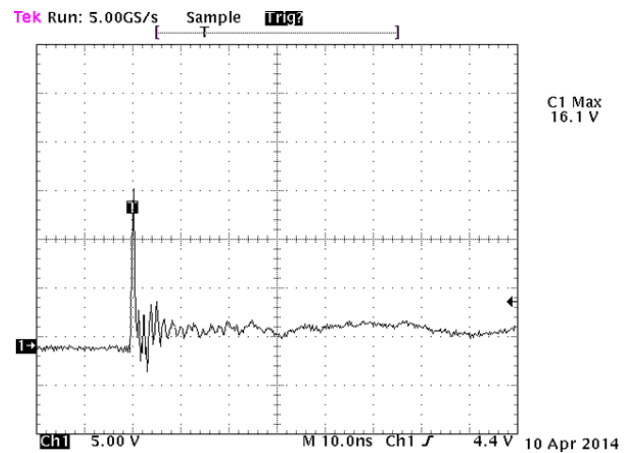
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



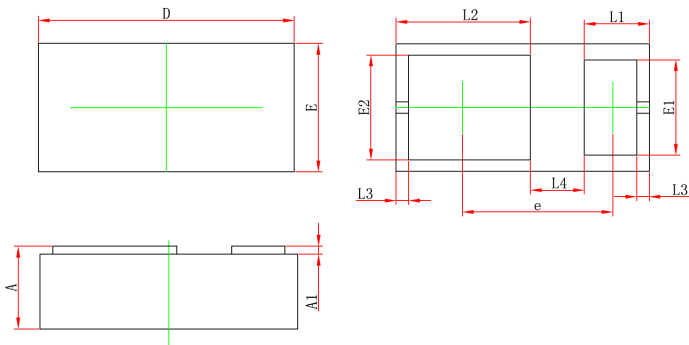
8 X 20μs Pulse Waveform



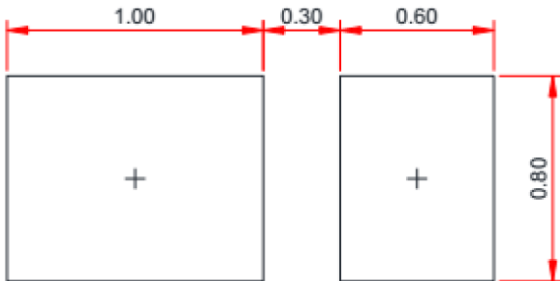
Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

FBP1608-2L Package Outline Drawing


SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.450	0.550	0.018	0.022
A1	0.010	0.090	0.000	0.004
D	1.550	1.650	0.061	0.065
E	0.750	0.850	0.030	0.033
E1	0.520	0.680	0.020	0.027
E2	0.600	0.760	0.024	0.030
L1	0.410 REF.		0.016 REF.	
L2	0.850 REF.		0.033 REF.	
L3	0.080 REF.		0.003 REF.	
L4	0.340 REF.		0.013 REF.	
E	0.900	1.000	0.035	0.039

Suggested Land Pattern

Contact Information

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