

Description

The AU2521P0 is a 2.5V bi-directional ESD protection 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 AU2521P0 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 an ultra-small 0.6x0.3x0.3mm DFN lead-free package. The small size and high ESD surge protection make AU2521P0 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

- Protects one data line
- Ultra low leakage: nA level
- Ultra low operating voltage: 2.5V
- 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) 10A (8/20 μs)
- RoHS Compliant

Mechanical Characteristics

- Package: DFN0603-2 (0.6x0.3x0.3mm)
- 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

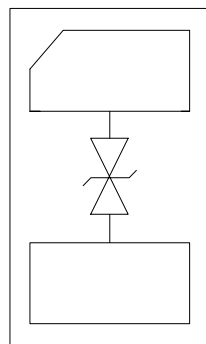
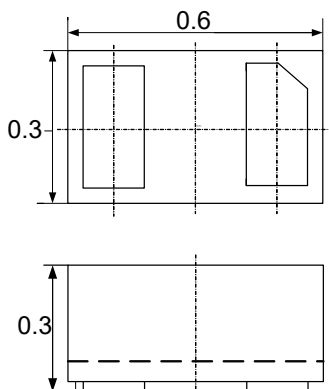


2A= Device Marking Code

Ordering Information

Part Number	Packaging	Reel Size
AU2521P0	10000/Tape & Reel	7 inch

Dimensions and Pin Configuration



Package Dimensions (mm)

Circuit and Pin Schematic

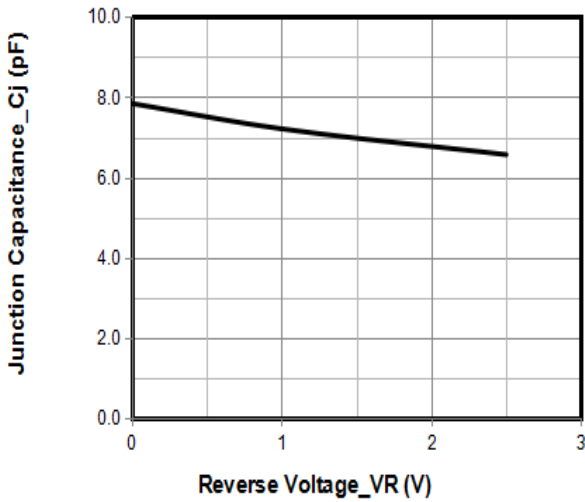
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{pk}	100	W
Peak Pulse Current (8/20μs)	I _{pp}	10	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T _J	-40 to +85	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

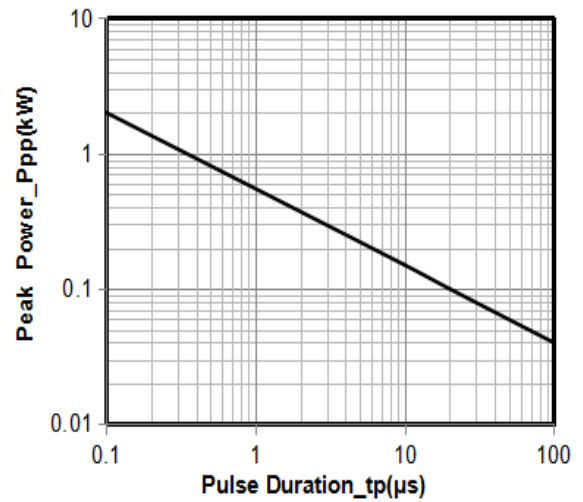
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}		2.5	2.8	V	
Punch-Through Voltage	V _{PT}	2.9			V	I _T = 2μA
Snap-Back Voltage	V _{SB}	2.8			V	I _T = 50mA
Reverse Leakage Current	I _R			0.1	μA	V _{RWM} = 2.5V
Reverse Leakage Current	I _R			0.2	μA	V _{RWM} = 2.8V
Clamping Voltage	V _C			5	V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V _C			10	V	I _{PP} = 10A (8 x 20μs pulse)
Junction Capacitance	C _J			25	pF	V _R = 0V, f = 1MHz

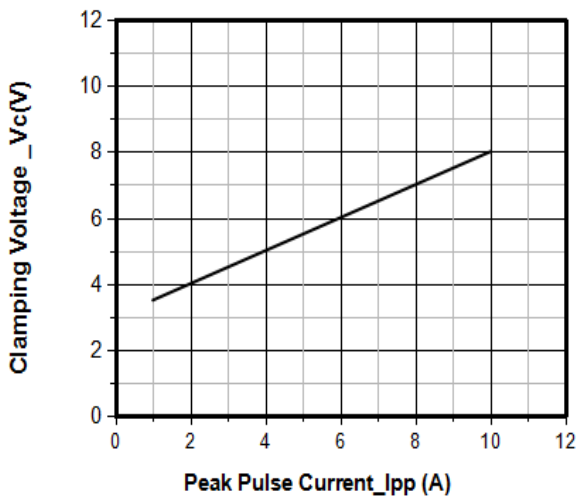
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



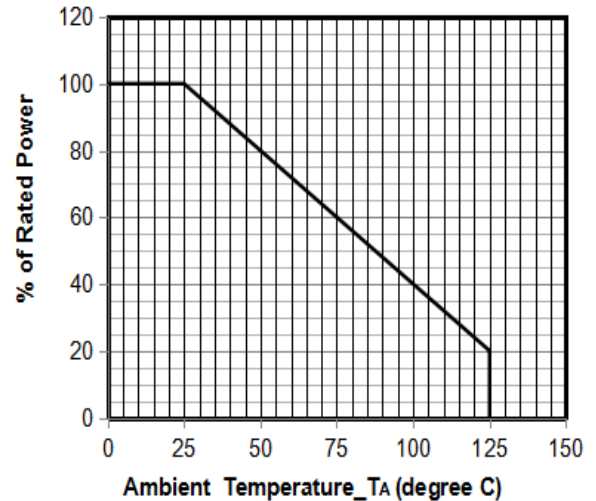
Junction Capacitance vs. Reverse Voltage



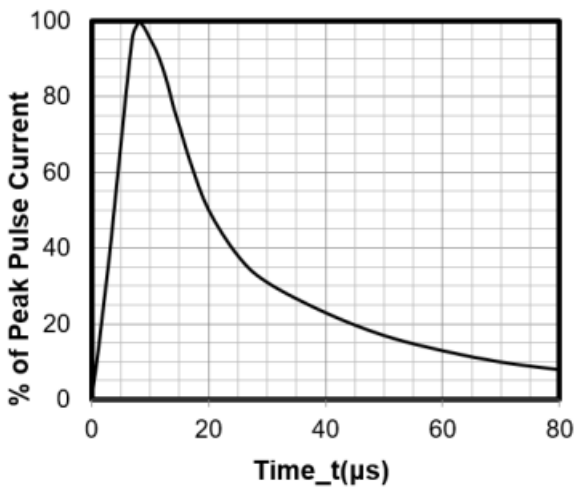
Peak Pulse Power vs. Pulse Time



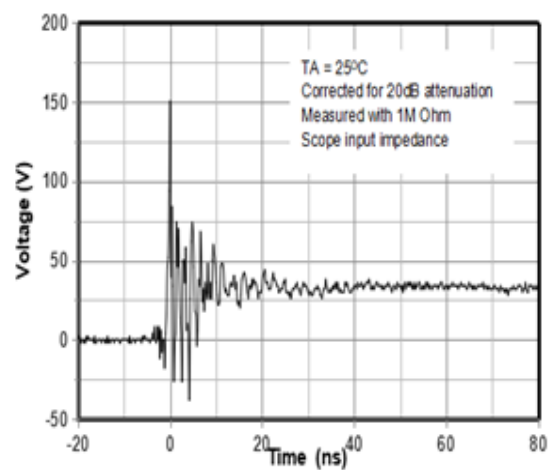
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



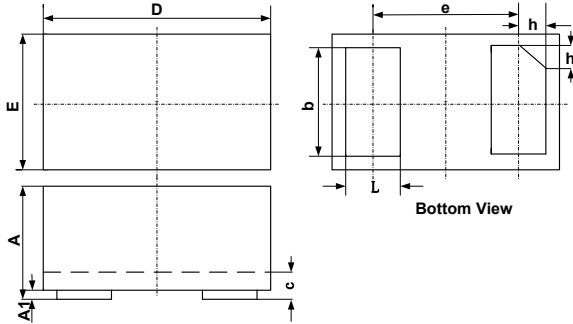
8 X 20 μs Pulse Waveform



ESD Clamping Voltage

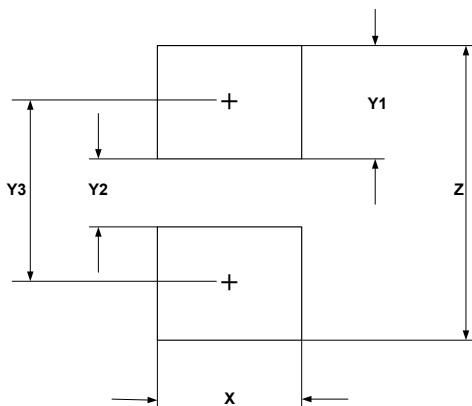
8 kV Contact per IEC61000-4-2

DFN0603-2 Package Outline Drawing



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230		0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026

Contact Information

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