

Bi-directional ESD Protection Diode in DFN0603 Package

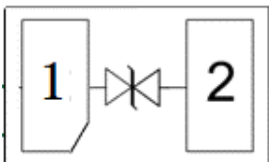
Features

- Ultra small package: 0.6x0.3x0.3mm
- Ultra low capacitance: 15pF typical
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15\text{kV}$
 - Contact discharge: $\pm 8\text{kV}$
- These are Pb-Free Devices
- Response Time is Typically $< 1\text{ ns}$

Description

The SLD5V0L1B2LP3-7 is a bi-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 protect voltage sensitive data and power line. The D5V0L1B2LP3-7 complies with the IEC 61000-4-2 (ESD) standard with $\pm 15\text{ kV}$ air and $\pm 8\text{ kV}$ contact discharge. It is assembled into an ultra-small 0.6x0.3x0.3mm lead-free 0201 package. The small size and high ESD surge protection make SLD5V0L1B2LP3-7 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Circuit Diagram



Applications

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

Ordering Information

Part Number	Packaging	Reel Size
SLD5V0L1B2LP3-7	10000/Tape & Reel	7 inch

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

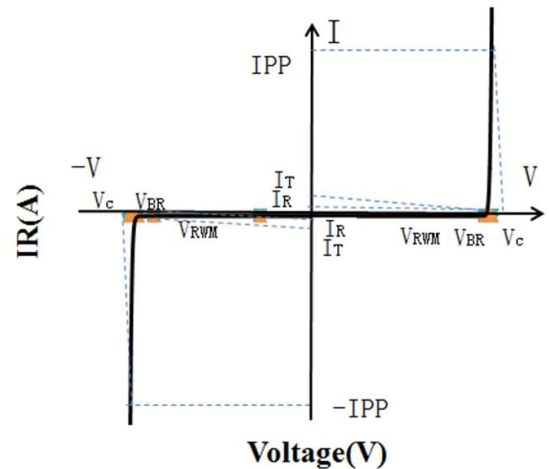
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	80	W
Peak Pulse Current (8/20 μs)	IPP	6	A
ESD per IEC 61000-4-2 (Air)	VESD	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

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

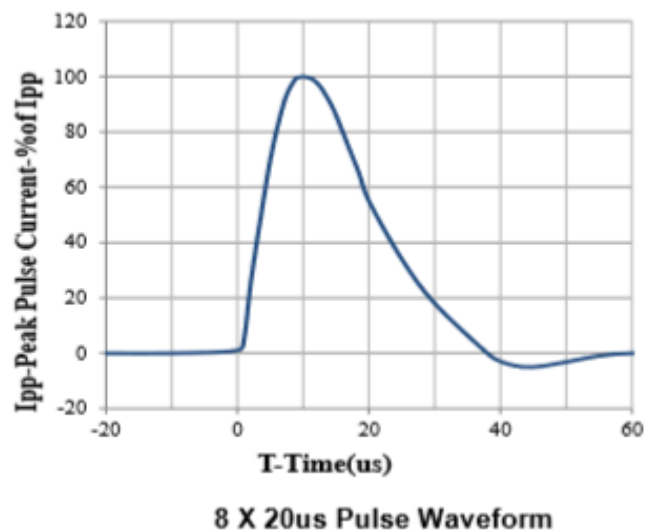
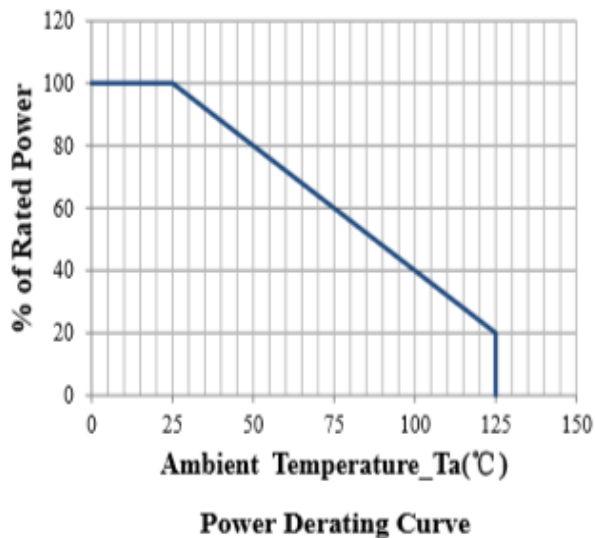
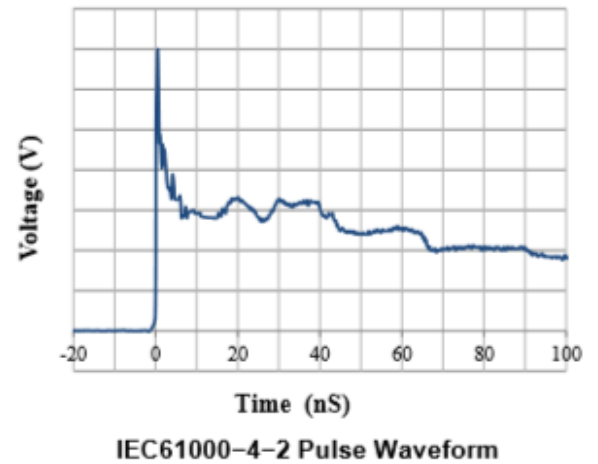
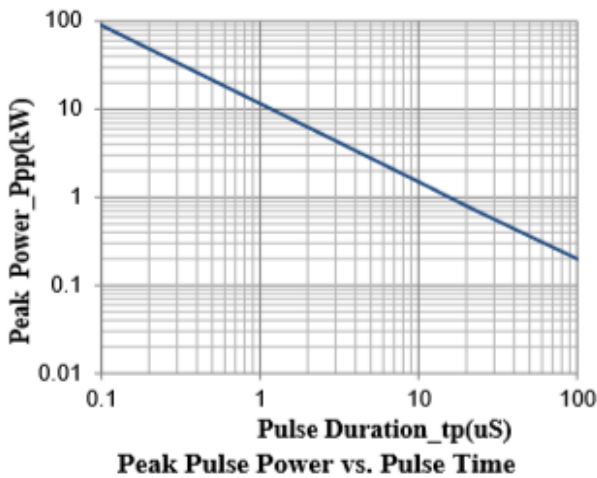
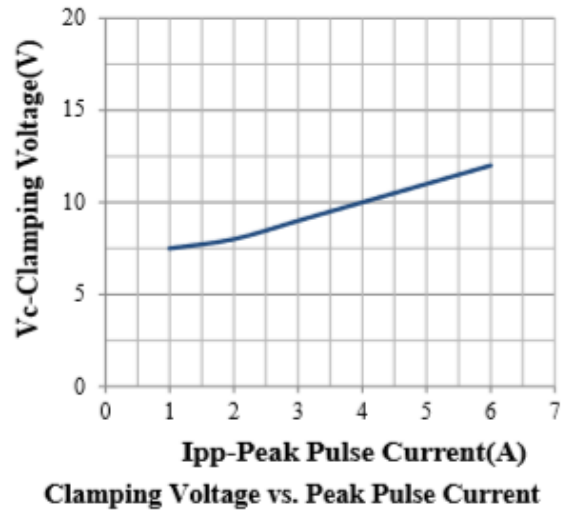
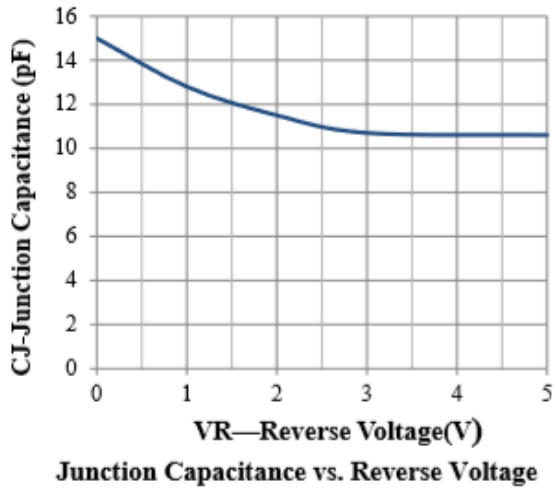
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)			7.5	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		15	18	pF

Portion Electronics Parameter

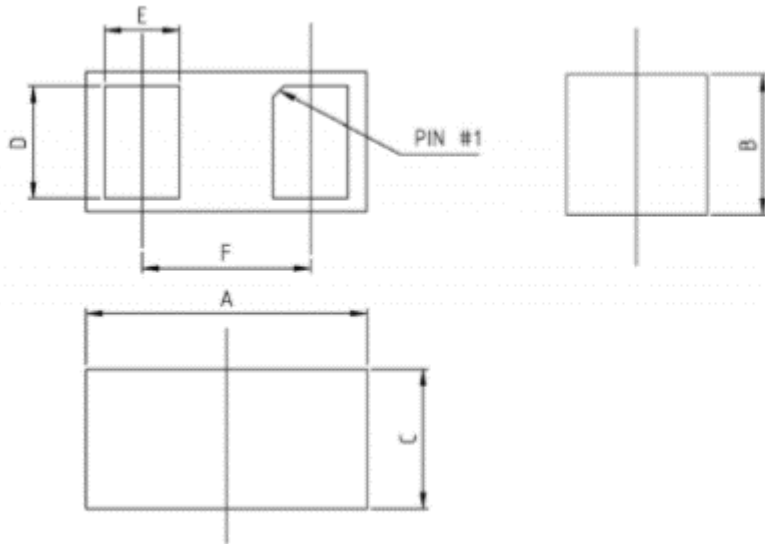
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



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



DFN0603-2L(0201)Package Outline Drawing



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	0.58	0.60	0.65
B	0.28	0.30	0.35
C	0.28	0.30	0.34
D	0.20	0.24	0.26
E	0.13	0.16	0.19
F	-	0.36	-