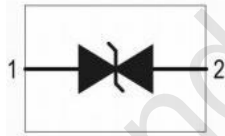




1-Line Bidirectional ESD Protection Diode

DFN1006-2L

### Schematic & Pin configuration

Simplified outline		Graphic symbol
1	2	

### General description

Low capacitance bidirectional ElectroStatic Discharge(ESD) protection diode in a DFN1006(SOD882)leadless ultra small Surface-Mounted Device(SMD)plastic package designed to protect one signal line from the damage caused by ESD and other transients.

### Features and benefits

- Bidirectional ESD protection of one line
- Low operating voltage: 5.0V
- Low clamping voltage  $V_c = 10\text{ V}@100\text{A}$
- Response time is typically  $< 1\text{ ns}$
- Ultra Low Leakage: nA Level
- IEC 61000-4-2; level 4(ESD)
- IEC 61000-4-5 (surge);  $|ppm| = 100\text{ A}$

### Application information

- Portable electronics
- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Communication systems
- Power supplies

### Ordering information

Device	Package	Packaging	Reel Size
ESD8V5.0C	DFN1006-2L	10000/Tape & Reel	7 Inch

## Maximum Ratings (Top=25°C, unless otherwise specified)

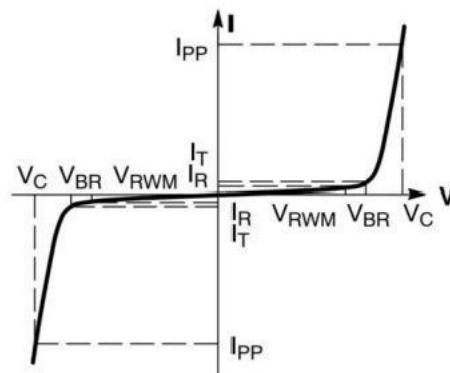
Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp=8/20 μs)	PppM	1000	W
Rated Peak Pulse Current (Tp=8/20 μs)	IppM	100	A
Maximum lead temperature for soldering during 10s	TL	260	°C
Storage Temperature Range	Tstg	-55 to +150	°C
Operating Temperature Range	Top	-40 to +125	°C
Maximum junction temperature	Tj	150	°C
ESD voltage IEC 61000-4-2 (air discharge)	VESD	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	VESD	30	kV

## Electrical Characteristics (Top=25 °C, unless otherwise specified)

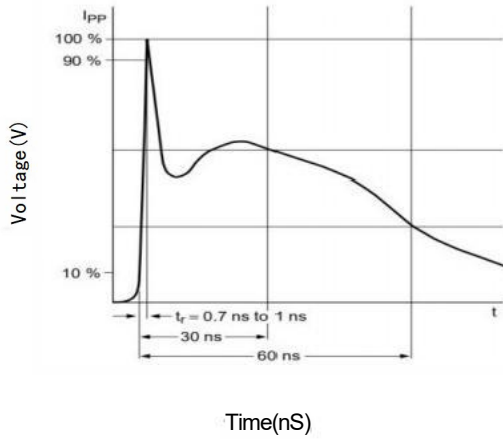
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWM			5.0	V	
Breakdown Voltage	VBR	5.8	· ·	7.0	V	I <sub>r</sub> =1mA
Leakage Current I <sub>Leak</sub>	I <sub>lk</sub>		· ·	100	nA	VRWM=5.0V
Clamping Voltage	V <sub>c</sub>		7.5	9.0	V	I <sub>pp</sub> =50A, Tp=8/20 μs
Clamping Voltage	V <sub>c</sub>		9.0	10.5	V	I <sub>pp</sub> =100A, Tp=8/20 μs
Junction Capacitance	C <sub>j</sub>		200	250	pF	V <sub>r</sub> =0V, f=1MHz

## Portion Electronics Parameter

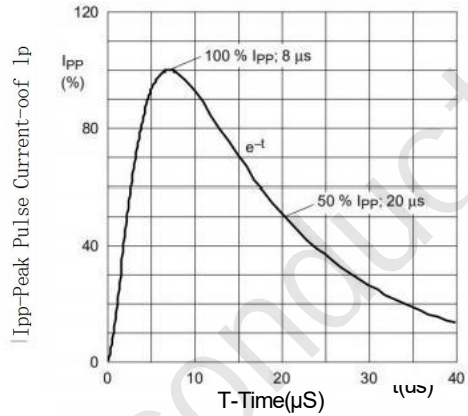
Symbol	Parameter
I <sub>pp</sub>	Maximum Reverse Peak Pulse Current
V <sub>c</sub>	Clamping Voltage @I <sub>pp</sub>
VRWM	Working Peak Reverse Voltage
I <sub>r</sub>	Maximum Reverse Leakage Current @V <sub>rwm</sub>
π	Test Current
VBR	VBR Breakdown Voltage @I <sub>r</sub>



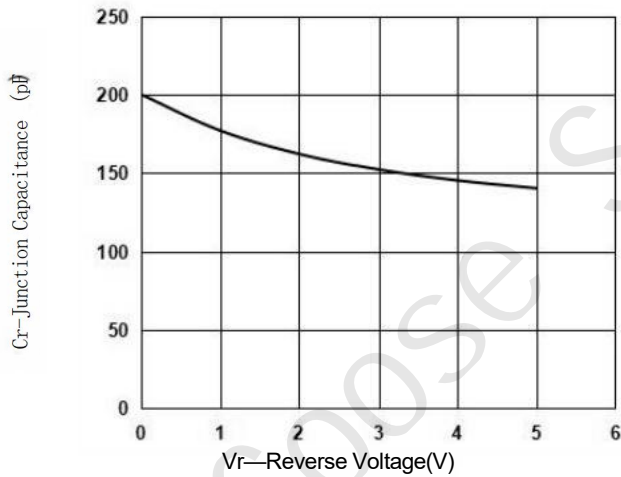
Typical Performance Characteristics ( $T_4=25^\circ\text{C}$  unless otherwise Specified)



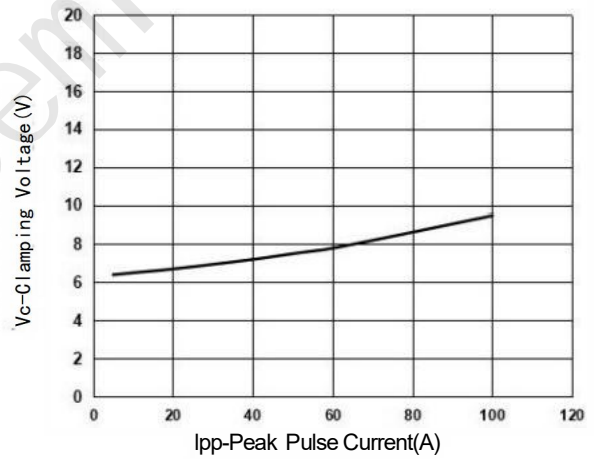
IEC61000-4-2 Pulse Waveform



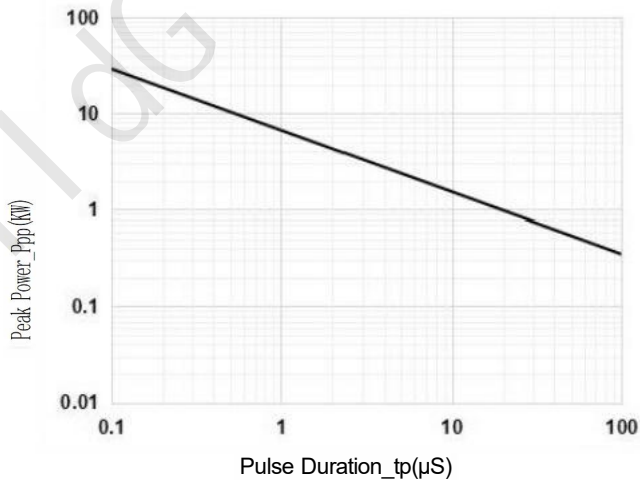
IEC61000-4-58X20µs Pulse Waveform



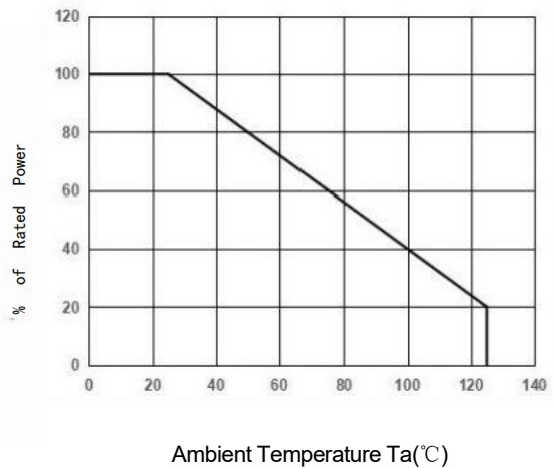
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



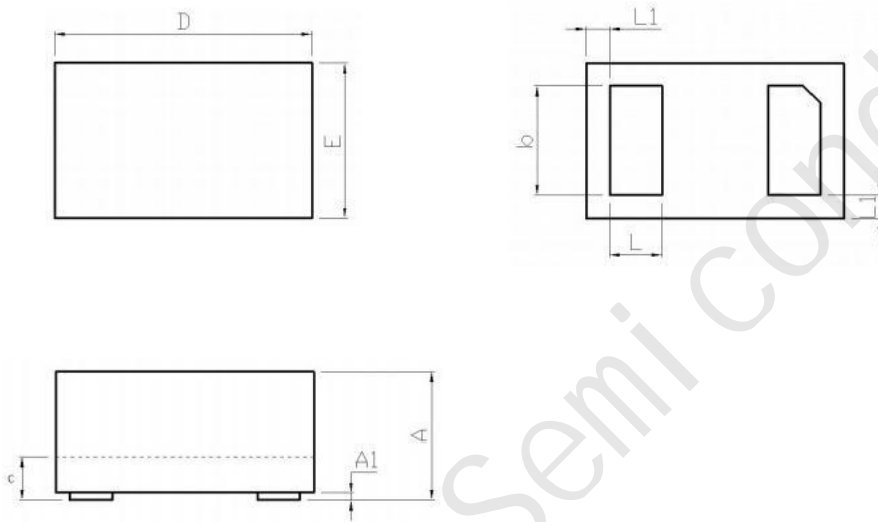
Peak Pulse Power vs. Pulse Time



Power Derating Curve

## Package Outline Dimensions

DFN1006-2L



DFN1006-2L (mm)			
Dim	Min	Typ.	Max
A	0.45	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.5	0.55
c	0.1	0.15	0.18
D	0.95	1.00	1.05
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.035	0.05	0.065