





1-Line Bidirectional ESD Protection Diode

DFN1006-2L

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

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 ns
- Ultra Low Leakage:nA Level
- IEC 61000-4-2;level 4(ESD)
- IEC 61000-4-5 (surge);|ppm=100 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)

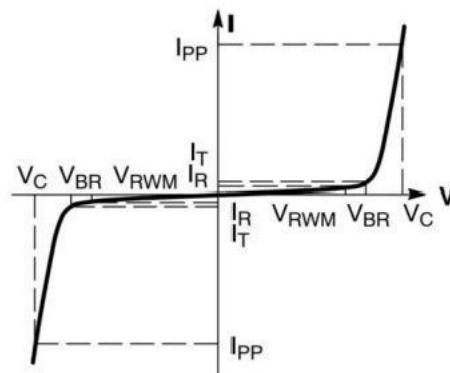
Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp=8/20 μs)	PppM	1000	W
Rated Peak Pulse Current (Tp=8/20 μs)	IppM	100	A
Maximum lead temperature for soldering during 10s	TL	260	°C
Storage Temperature Range	Tstg	-55 to +150	°C
Operating Temperature Range	Top	-40 to +125	°C
Maximum junction temperature	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)

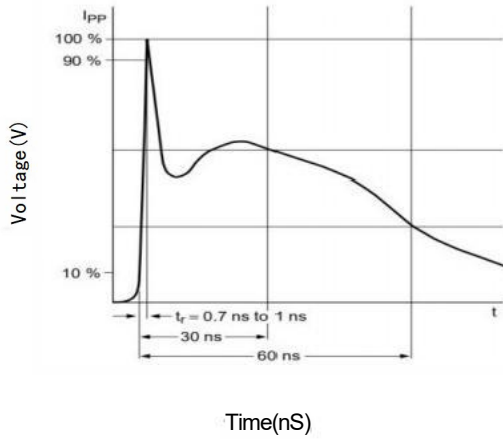
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWM			5.0	V	
Breakdown Voltage	VBR	5.8	· ·	7.0	V	I _r =1mA
Leakage Current I _{Leak}	I _{lk}		· ·	100	nA	VRWM=5.0V
Clamping Voltage	V _c		7.5	9.0	V	I _{pp} =50A, Tp=8/20 μs
Clamping Voltage	V _c		9.0	10.5	V	I _{pp} =100A, Tp=8/20 μs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

Portion Electronics Parameter

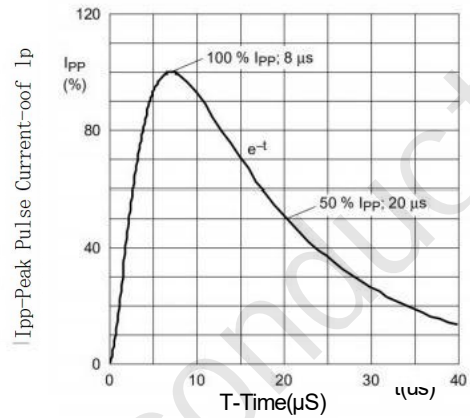
Symbol	Parameter
I _{pp}	Maximum Reverse Peak Pulse Current
V _c	Clamping Voltage @I _{pp}
VRWM	Working Peak Reverse Voltage
I _r	Maximum Reverse Leakage Current @V _{rwm}
π	Test Current
VBR	VBR Breakdown Voltage @I _r



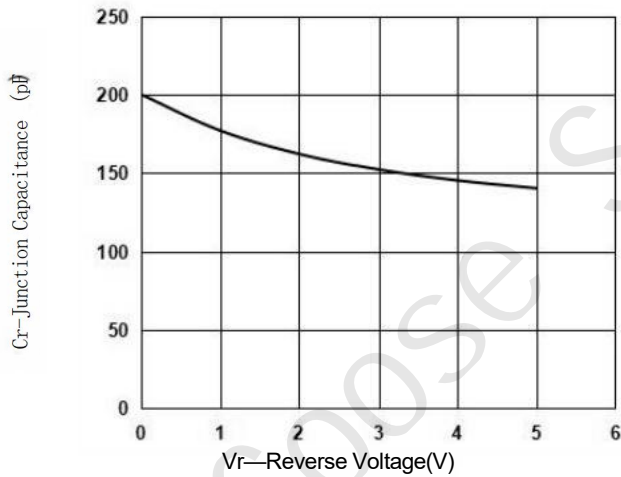
Typical Performance Characteristics ($T_4=25^{\circ}\text{C}$ unless otherwise Specified)



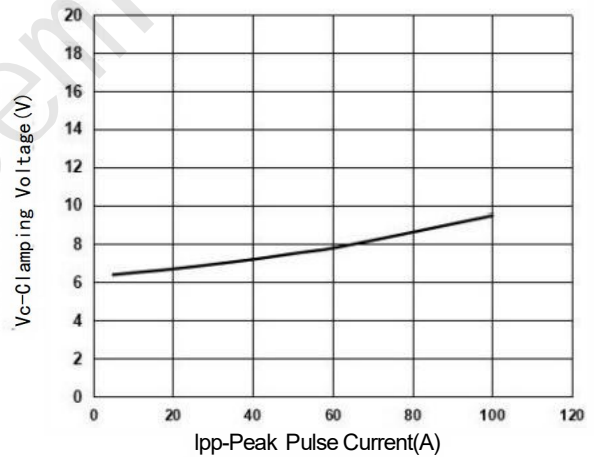
IEC61000-4-2 Pulse Waveform



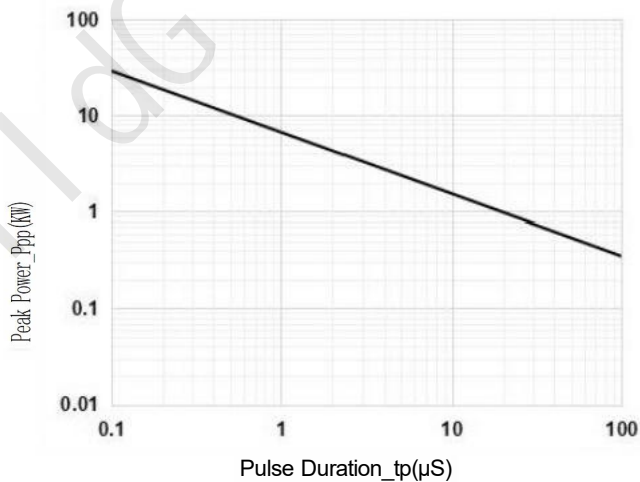
IEC61000-4-58X20µs Pulse Waveform



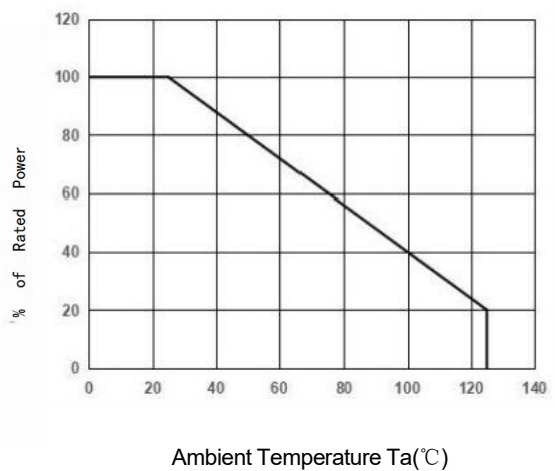
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



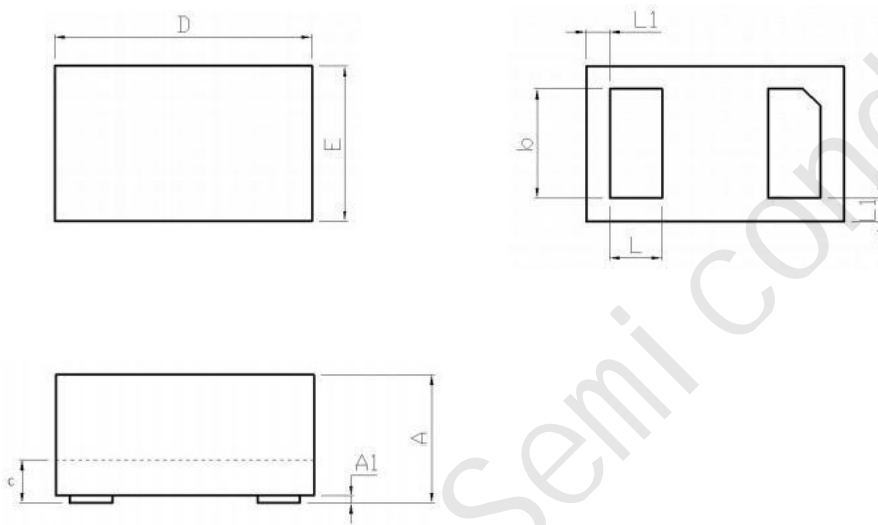
Peak Pulse Power vs. Pulse Time



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

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