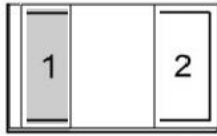
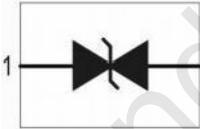




1-Line Bidirectional ESD Protection Diode

DFN1006-2L

## Schematic & Pin configuration

Simplified outline	Graphic symbol
 <p>Marking: R2C</p>	

## 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:7.0V
- Low clamping voltage  $V_c = 13\text{ V}@8\text{A}$
- Response time is typically <1 ns
- Ultra Low Leakage:nA Level
- IEC 61000-4-2;level 4(ESD)
- IEC 61000-4-5(surge);|ppm=8 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
ESD8E7.0C	DFN1006-2L	10000/Tape&Reel	7 Inch

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

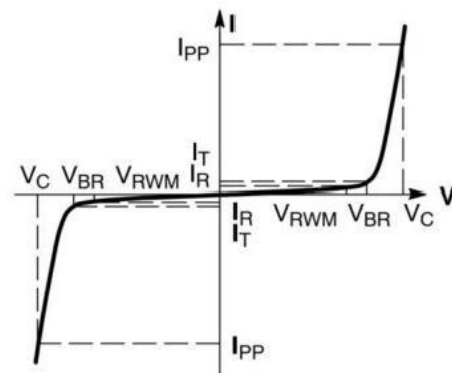
Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp=8/20 μs)	PpPM	104	W
Rated Peak Pulse Current (Tp=8/20 μs)	IpPM	8	A
Maximum lead temperature for soldering during 10s	Tt	260	°C
Storage Temperature Range	Tstg	-55 to +150	°C
Operating Temperature Range	Top	-40 to +125	°C
Maximum junction temperature	Tj	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)

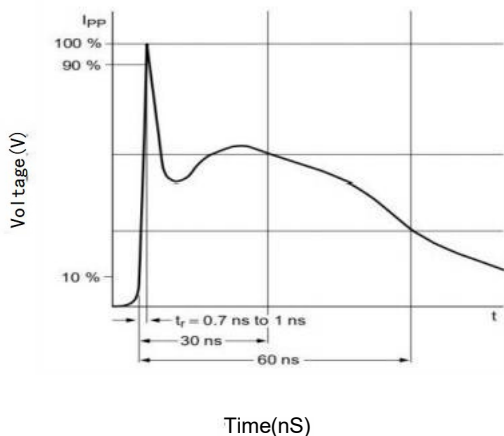
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWM			7.0	V	
Breakdown Voltage	VBR	7.6	8.2	9.0	V	Ir=1mA
Leakage Current ILeak	Ir			0.1	μA	VRWM=7.0V
Clamping Voltage	Vc		10.0	12.0	V	Ipp=5A, Tp=8/20 μs
Clamping Voltage	Vc		11.5	13.0	V	Ipp=8A, Tp=8/20 μs
Junction Capacitance	Cj		18.0	25.0	pF	Vr=0V, f=1MHz

### Portion Electronics Parameter

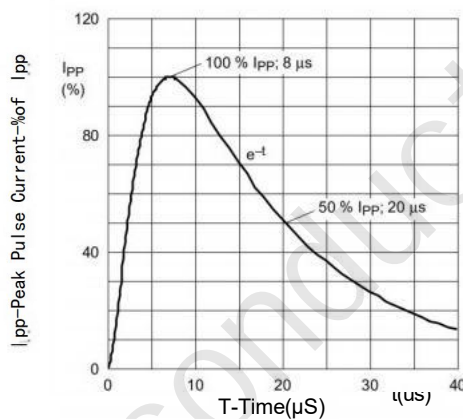
Symbol	Parameter
Ipp	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ipp
Vrwm	Working Peak Reverse Voltage
Ig	Maximum Reverse Leakage Current @VRWM
r	Test Current
VBR	VBR Breakdown Voltage @Ir



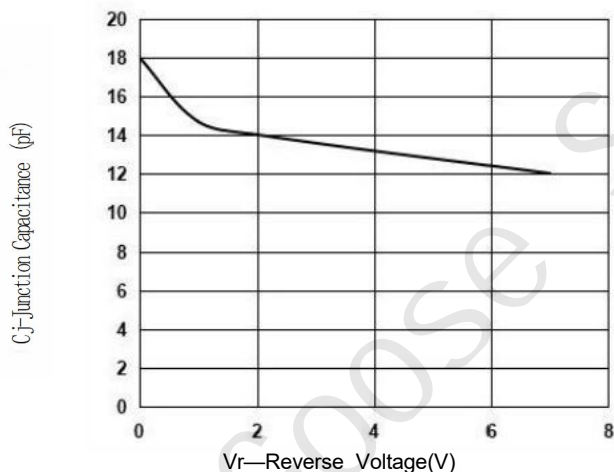
Typical Performance Characteristics ( $T_4=25^{\circ}\text{C}$  unless otherwise Specified)



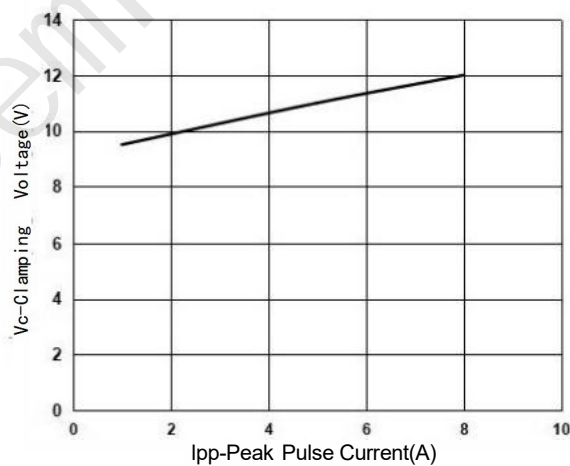
IEC61000-4-2 Pulse Waveform



IEC61000-4-58X20 $\mu\text{s}$  Pulse Waveform



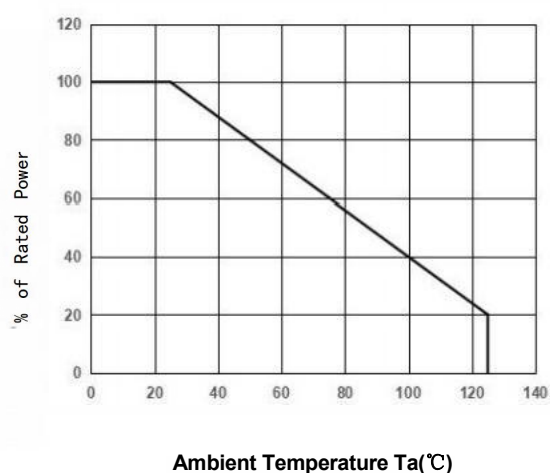
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



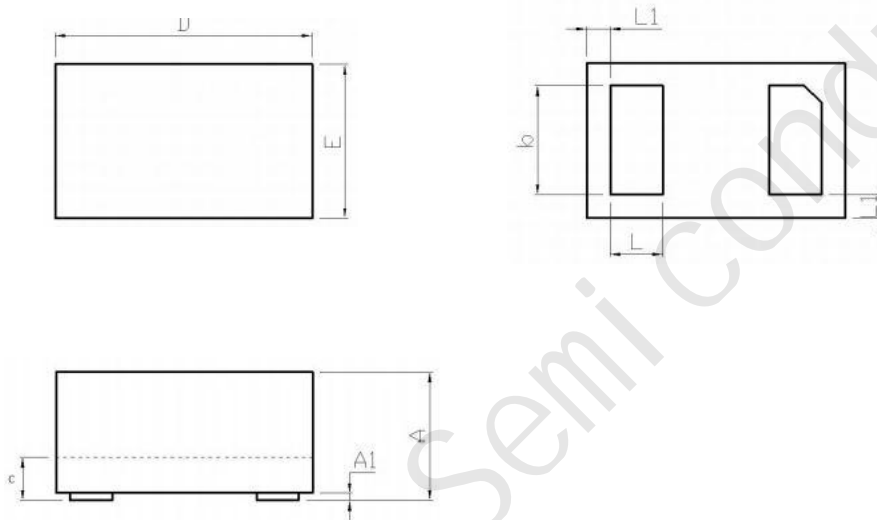
Peak Pulse Power vs. Pulse Time



Ambient Temperature  $T_a(^{\circ}\text{C})$   
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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