

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
- Femtofarad capacitance: $C_j = 35\text{pF}$ (Typ)
- Low clamping voltage $V_C = 10\text{ V}@20\text{A}$
- Low leakage current: nA Level
- ESD protection up to 30 kV
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); IPPM = 20 A



DFN1006-2L

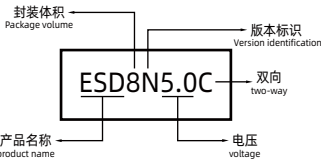
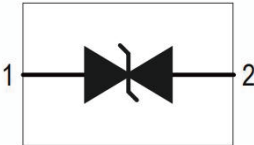
Application information

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

Ordering information

Device	Package	Reel Size	Qty(PCS)
ESD8N5.0C	DFN1006-2L	7 Inch	10000

Ordering information

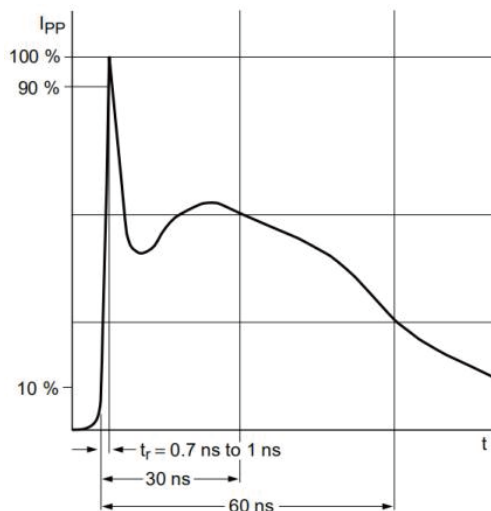
Marking	Naming rule	Graphic symbol
H	 The diagram shows the naming rule for the device ESD8N5.0C. It is a rectangular box with the text 'ESD8N5.0C' inside. Arrows point from labels to parts of the box: '封装体积' (Package volume) points to the top left corner, '版本标识' (Version identification) points to the top right corner, '产品名称' (product name) points to the bottom left corner, and '电压' (voltage) points to the bottom right corner. Below the box, the text '双向 two-way' is written.	 The graphic symbol is a rectangular box containing a bidirectional diode symbol. The symbol consists of two triangles pointing towards each other, with a vertical line through the center. The terminals are labeled '1' on the left and '2' on the right.

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

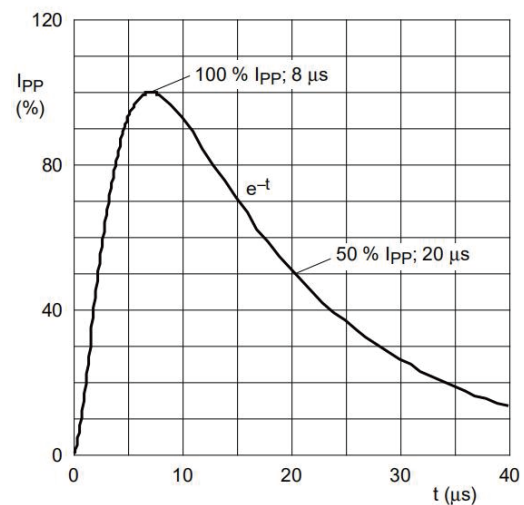
Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PPM}	200	W
Peak Pulse Current($t_p = 8/20\mu\text{s}$)	I_{PPM}	20	A
Maximum lead temperature for soldering during 10s	T_L	260	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$
Operating Temperature Range	T_{OP}	-40 to +125	$^{\circ}\text{C}$
Maximum junction temperature	T_j	150	$^{\circ}\text{C}$
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	30	kV

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

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	5.0	V	
Breakdown Voltage	V_{BR}	6.0	6.5	8.0	V	$I_T=1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	100	nA	$V_{RWM}=5\text{V}$
Clamping Voltage	V_C	--	9.0	10.0	V	$I_{PP}=20\text{A}, t_p=8/20\mu\text{s}$
Junction Capacitance	C_J	--	35	42	pF	$V_R=0\text{V}, f=1\text{MHz}$

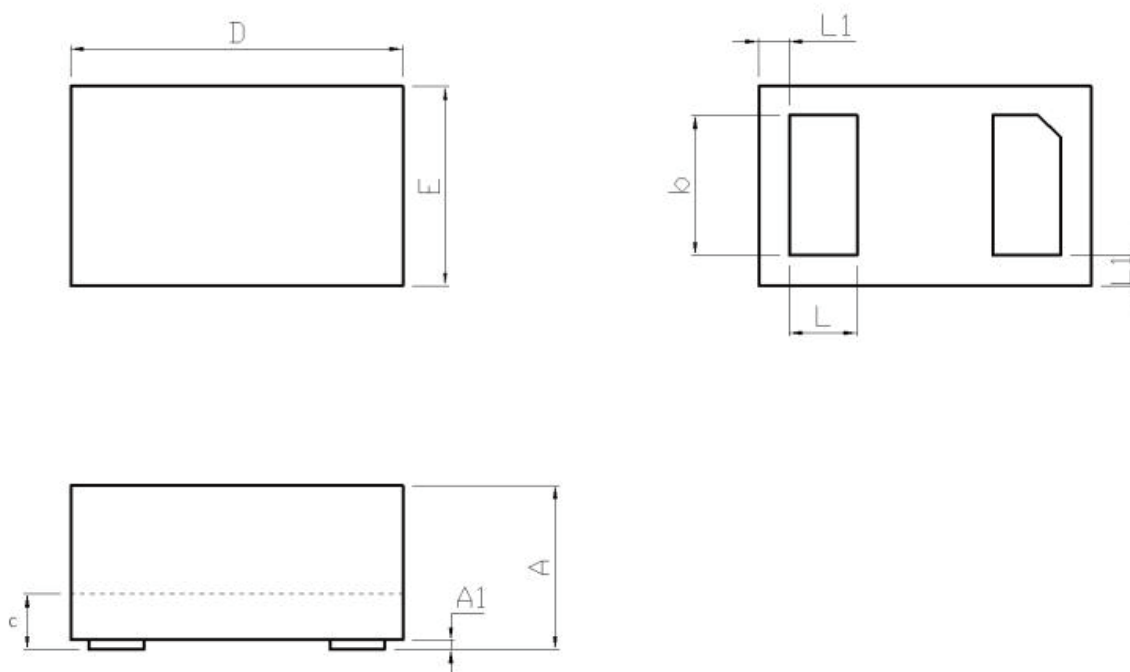


IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)

DFN1006-2L Package Outline Dimensions



DFN1006-2L (mm)			
DIM	MIN	TYP.	MAX
A	0.40	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