

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: $C_j = 60\text{pF}$ (Typ)
- Low clamping voltage $V_C = 9.0\text{ V}@30\text{A}$ (Typ)
- Low leakage current: nA Level
- ESD protection up to 30 kV
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); IPPM = 30 A



DFN1006-2L

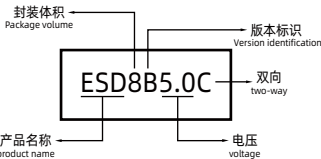
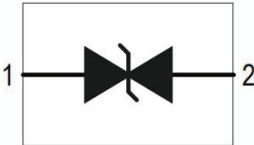
Application information

- 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)
ESD8B5.0C	DFN1006-2L	7 Inch	10000

Ordering information

Marking	Naming rule	Graphic symbol
B8		

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

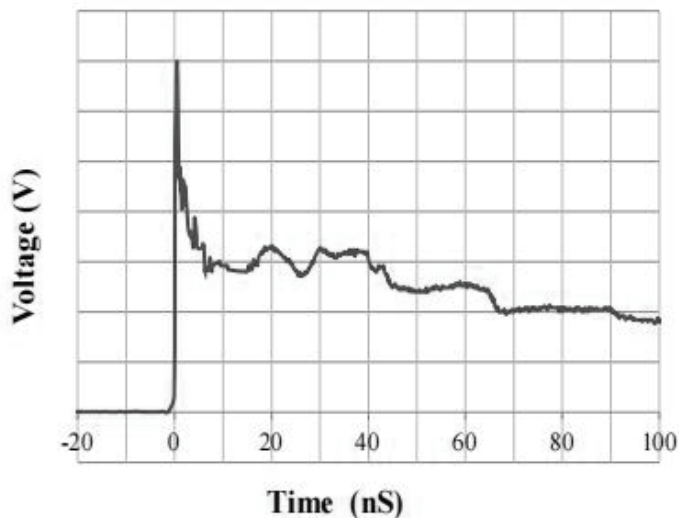
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P _{PPM}	300	W
Peak Pulse Current(tp = 8/20μs)	I _{PPM}	30	A
Maximum lead temperature for soldering during 10s	T _L	260	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C
Operating Temperature Range	T _{OP}	-40 to +125	°C
ESD voltage IEC 61000-4-2 (air discharge)	V _{ESD}	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V _{ESD}	30	kV

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

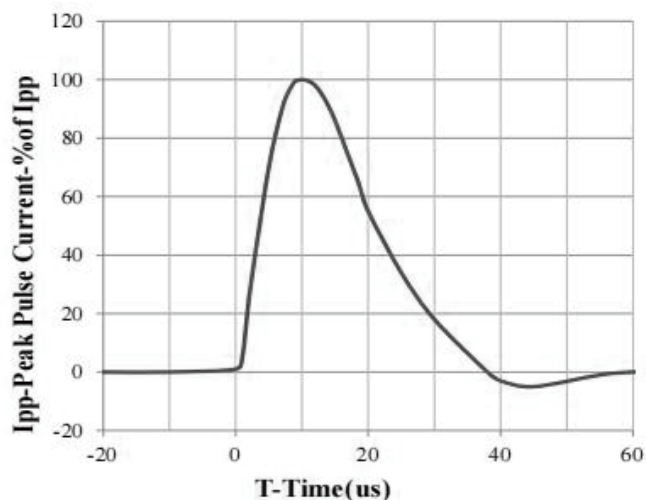
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V _{RWM}	--	--	5.0	V	
Breakdown Voltage	V _{BR}	5.6	--	7.0	V	I _T =1mA
Leakage Current I _{Leak}	I _R	--	--	100	nA	V _{RWM} =5V
Clamping Voltage	V _C	--	6.5	7.0	V	I _{PP} =10A, T _p =8/20μs
Clamping Voltage	V _C	--	9	10	V	I _{PP} =30A, T _p =8/20μs
Junction Capacitance	C _J	--	60	80	pF	V _R =0V, f=1MHz



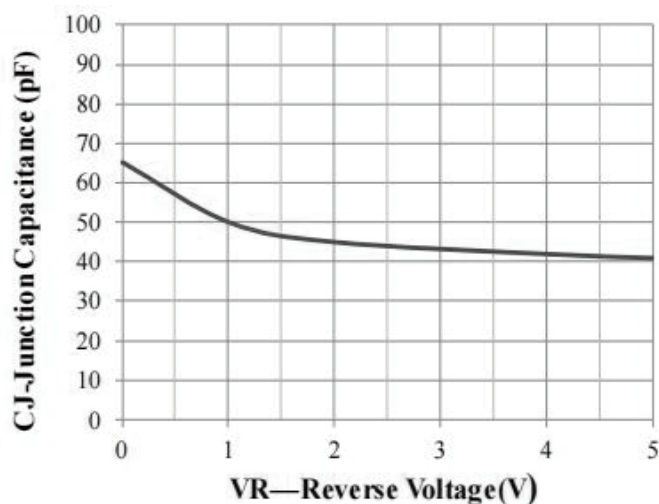
Typical Characteristics



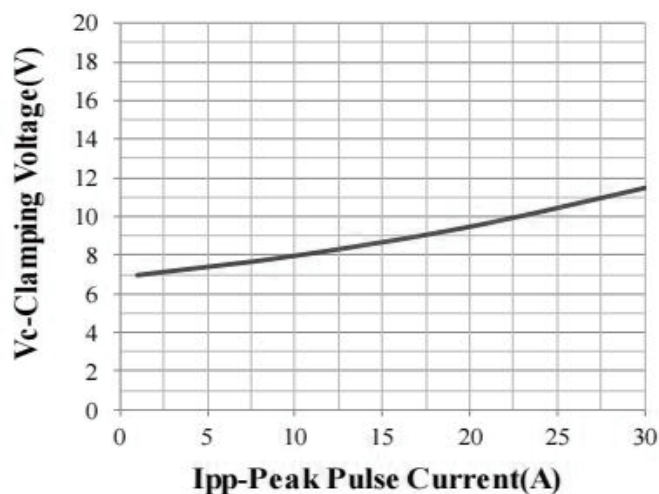
IEC61000-4-2 Pulse Waveform



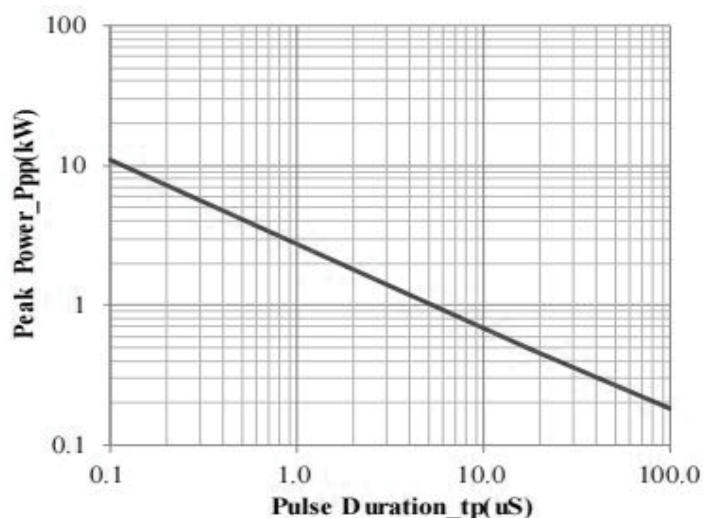
8 X 20us Pulse Waveform



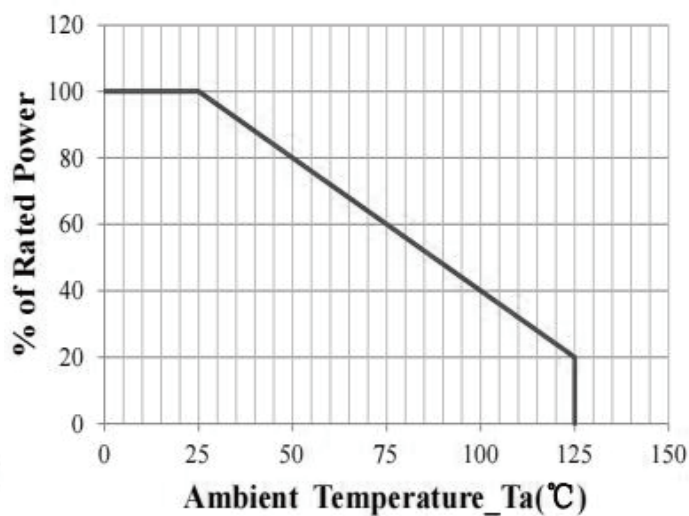
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current

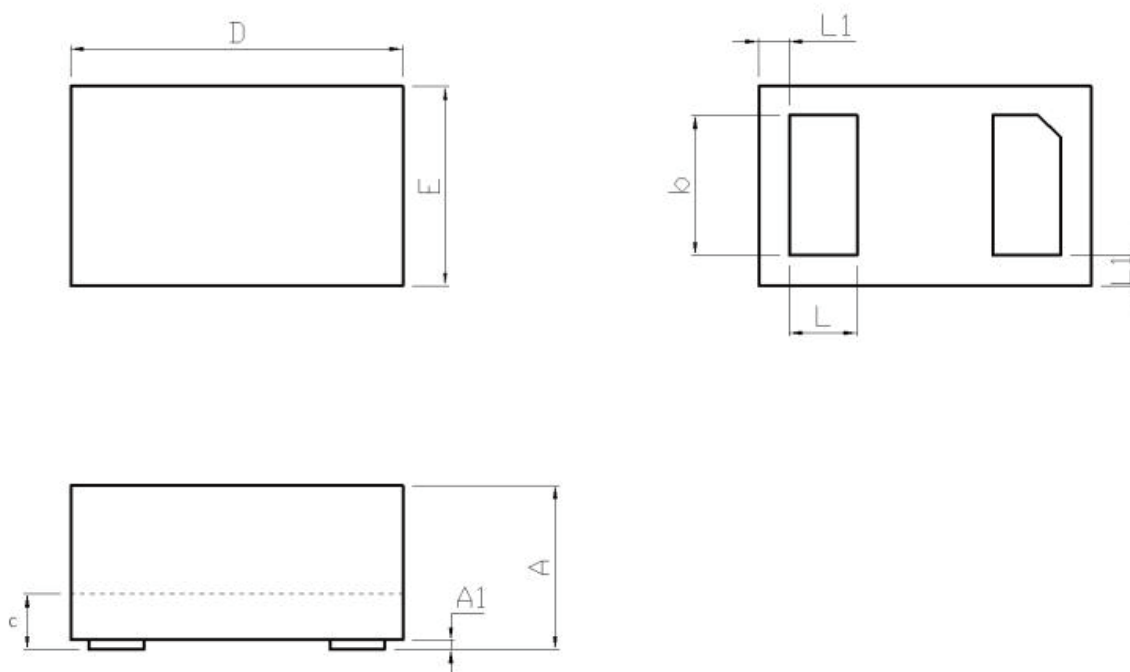


Peak Pulse Power vs. Pulse Time



Power Derating Curve

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