

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: $C_j = 6.0\text{pF}$ (TYP)
- Response time is typically $< 1\text{ ns}$
- Ultra Low Leakage: nA Level
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); IPPM = 4A



DFN1006-2L

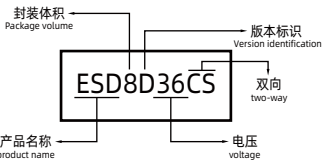
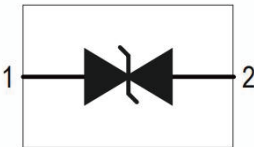
Application information

- 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)
ESD8D36CS	DFN1006-2L	7 Inch	10000

Ordering information

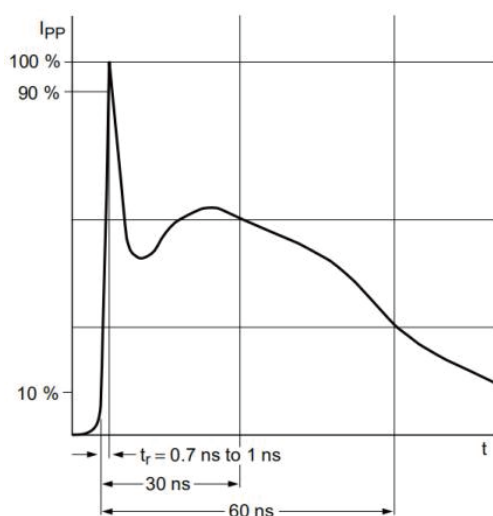
Marking	Naming rule	Graphic symbol
CH6		

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

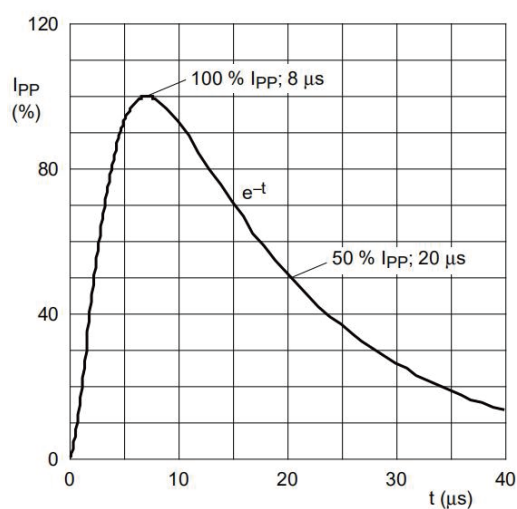
Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PPM}	272	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PPM}	4	A
Maximum lead temperature for soldering during 10s	T_L	260	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Temperature 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}	15	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	8	kV

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

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	36	V	
Breakdown Voltage	V_{BR}	39	--	45	V	$I_T = 1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	100	nA	$V_{RWM} = 36\text{V}$
Clamping Voltage	V_C	--	50	52	V	$I_{PP} = 1.0\text{A}, t_p = 8/20\mu\text{s}$
Clamping Voltage	V_C	--	66	68	V	$I_{PP} = 4.0\text{A}, t_p = 8/20\mu\text{s}$
Junction Capacitance	C_J	--	6.0	7.0	pF	$V_R = 0\text{V}, f = 1\text{MHz}$



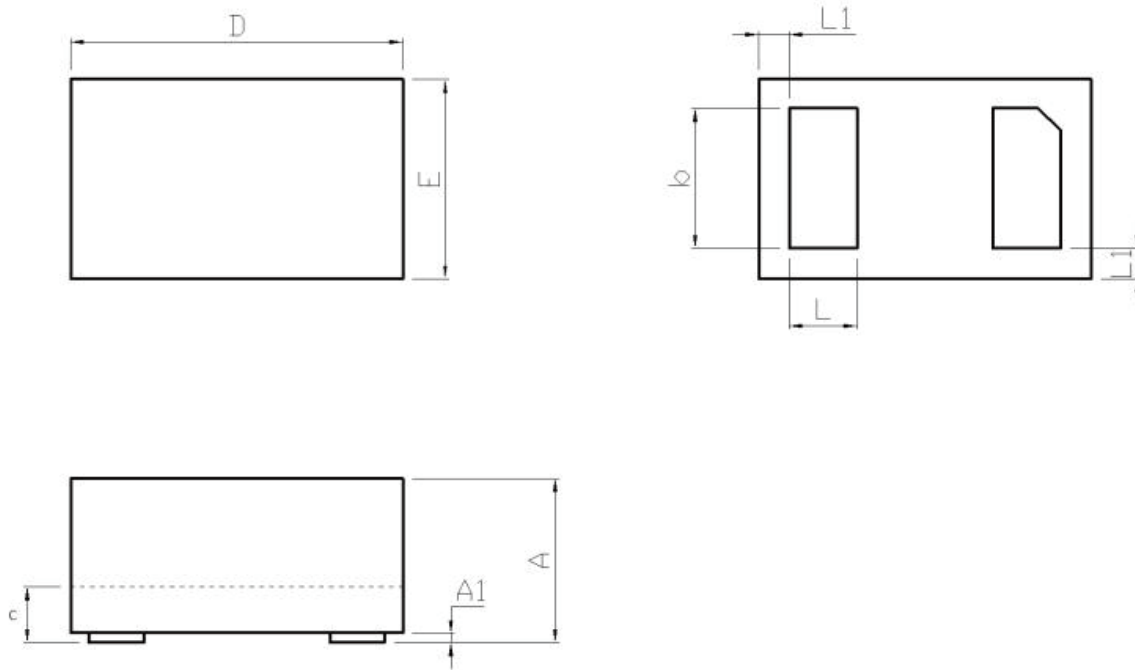
IEC61000-4-2 Waveform



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