1-Line Bidirectional ESD Protection Diode

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

- Low Capacitance 2.5 pF(Typ)
- Reverse stand-off voltage: 5V Max
- Low leakage current: nA Level
- Response time is typically < 1 ns
- IEC61000−4−2 Level 4 ESD Protection

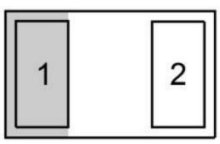
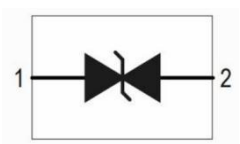
Application information

- Cellular Handsets & Accessories
- MP3 Players
- Digital Cameras
- Portable Instrumentation
- Peripherals
- Notebooks & Desktop Computers
- Keypads, Side Keys, USB 2.0,LCD Displays

Ordering information

Device	Package	Marking	Packaging
ESD8LM5.0C	DFN1006-2L	VB	10000/Tape & Reel

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

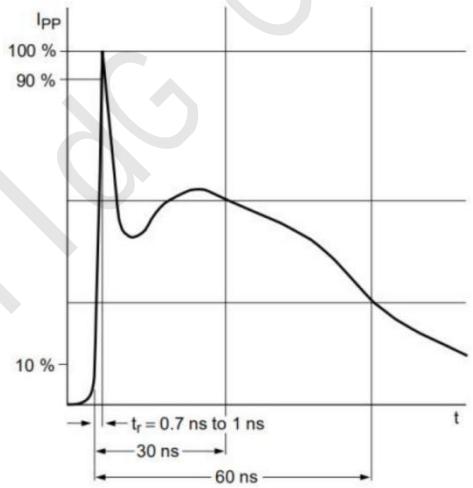
Maximum Ratings (T_{OP} = 25 。 C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp = 8/20 μ s)	P_{PPM}	30	W
Rated Peak Pulse Current (Tp = 8/20 μ s)	I_{PPM}	2.5	A
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	15	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	8	kV
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
Maximum junction temperature	T_j	150	°C

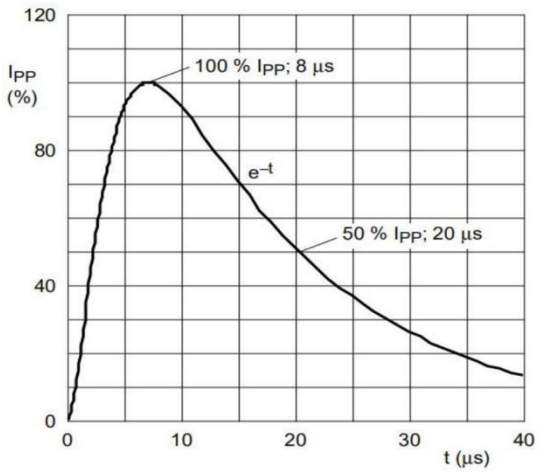
Electrical Characteristics (T_{OP} = 25 。 C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	5.0	V	
Breakdown Voltage	V_{BR}	6.0	--	9.0	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=5V
Clamping Voltage	V_C	--	--	12.0	V	I_{PP}=2A,Tp=8/20μs
Junction Capacitance	C_j	--	2.5	3.2	pF	V_R=0V, f=1MHz

Typical Electrical and Thermal Characteristics (Curves)



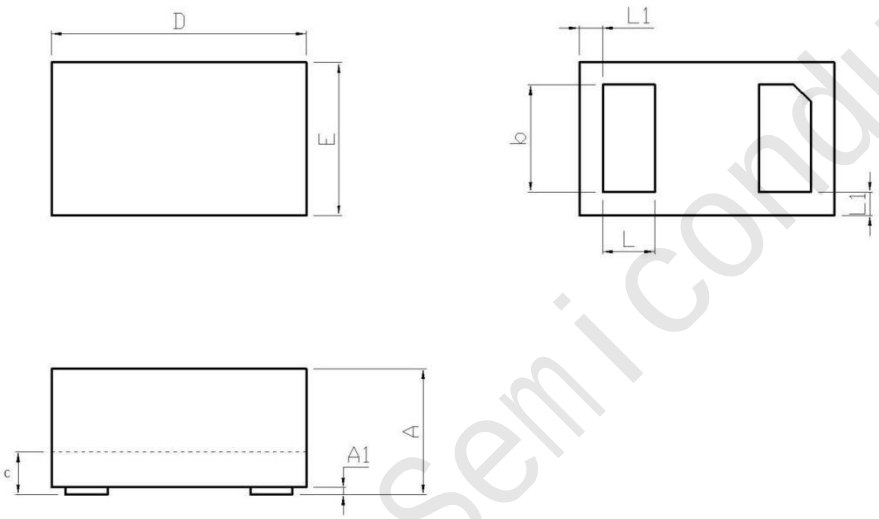
IEC61000−4−2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)

Package Outline Dimensions

DFN1006-2L



DFN1006-2L (mm)			
Dim	Min	Typ.	Max
A	0.46	0.48	0.50
A1	0	0.02	0.05
b	0.45	0.5	0.55
c	0.1	0.12	0.14
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
h	0.07	0.12	0.17