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

- Bidirectional ESD protection of one line
- Femtofarad capacitance: C_j = 10pF (Typ)
- Low clamping voltage V_C = 7.0 V@6.5A (Typ)
- Low leakage current: nA Level
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge); I_{PPM} = 6.5A

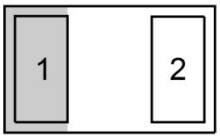
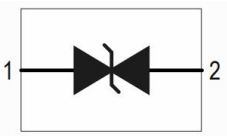
Application information

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

Ordering information

Device	Package	Packaging	Reel Size
SLESD8S5.0C	DFN1006-2L	10000/Tape & Reel	7 Inch

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

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

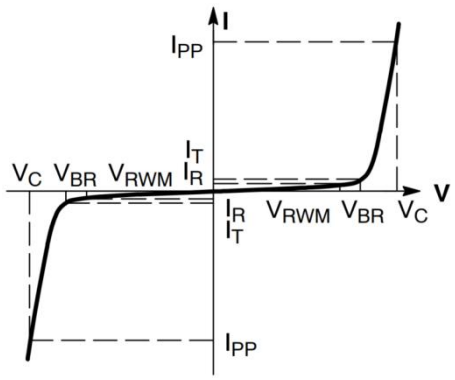
Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp = 8/20 μ s)	P_{PPM}	52	W
Rated Peak Pulse Current (Tp = 8/20 μ s)	I_{PPM}	6.5	A
Maximum lead temperature for soldering during 10s	T_L	260	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Operating Temperature Range	T_{OP}	-40 to +125	°C
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	25	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	15	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}	5.8	--	7.2	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=5V
Clamping Voltage	V_C	--	6	7	V	I_{PP}=1.0A,Tp=8/20μs
Clamping Voltage	V_C	--	7	8	V	I_{PP}=6.5A,Tp=8/20μs
Junction Capacitance	C_j	--	10	12	pF	V_R=0V, f=1MHz

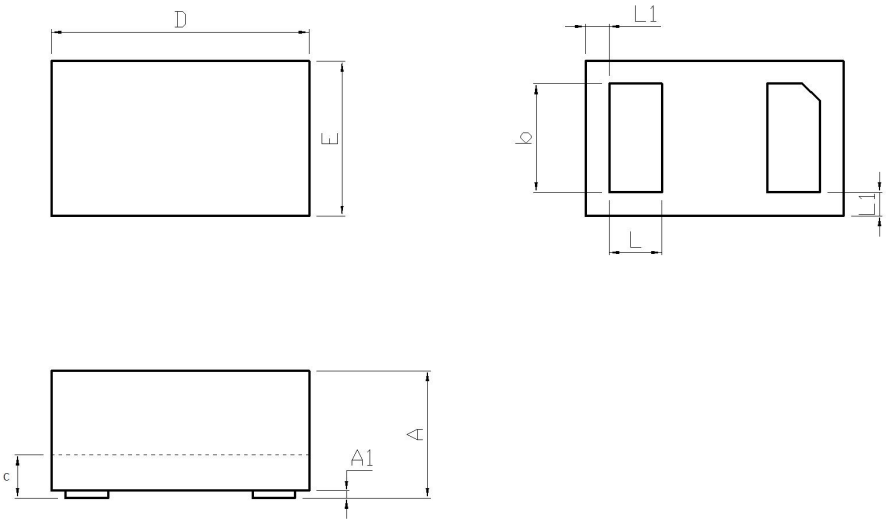
ortion Electronics Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	VBR Breakdown Voltage @ I_T



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