



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: $C_j = 20\text{pF}$ (Max)
- . Response time is typically $< 1\text{ ns}$
- . Low clamping voltage $V_C = 60\text{ V}$
- . Ultra Low Leakage: nA Level
- . IEC 61000-4-2; level 4 (ESD)
- . IEC 61000-4-5 (surge); $I_{PPM} = 5\text{ A}$

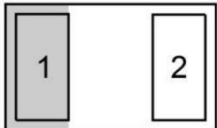
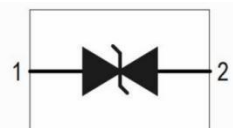
Application information

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

Ordering information

Device	Package	Marking	Packaging
ESD8D24C	DFN1006-2L	B4/CG4	10000/Tape & Reel

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

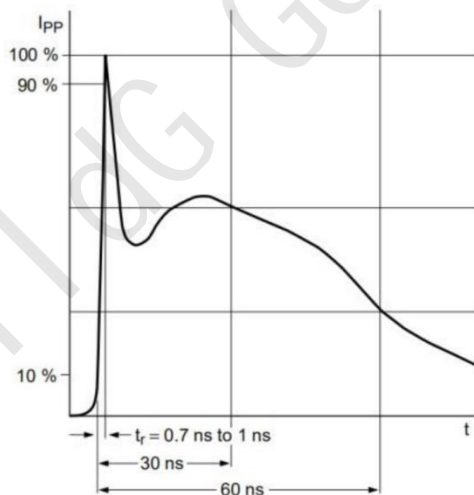
Maximum Ratings ($T_{OP} = 25 \text{ } ^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_p = 8/20 \text{ } \mu\text{s}$)	P_{PPM}	300	W
Rated Peak Pulse Current ($T_p = 8/20 \text{ } \mu\text{s}$)	I_{PPM}	5	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}	20	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	15	kV

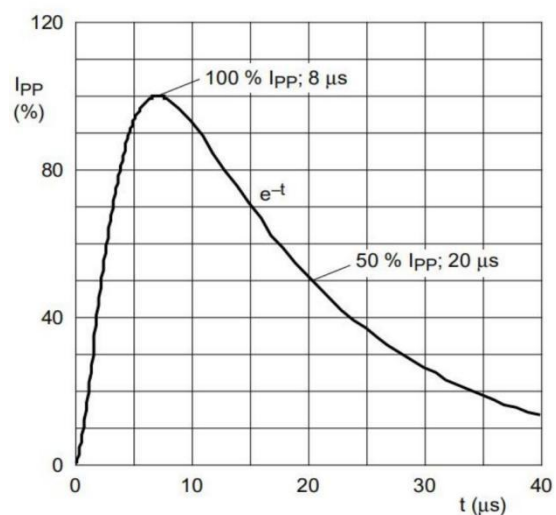
Electrical Characteristics ($T_{OP} = 25 \text{ } ^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	24.0	V	
Breakdown Voltage	V_{BR}	26.5	--	32.0	V	$I_T = 1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	100	nA	$V_{RWM} = 24\text{V}$
Clamping Voltage	V_C	--	--	60.0	V	$I_{pp} = 5\text{A}, T_p = 8/20\mu\text{s}$
Junction Capacitance	C_j	--	--	20	pF	$V_R = 0\text{V}, f = 1\text{MHz}$

Typical Electrical and Thermal Characteristics (Curves)



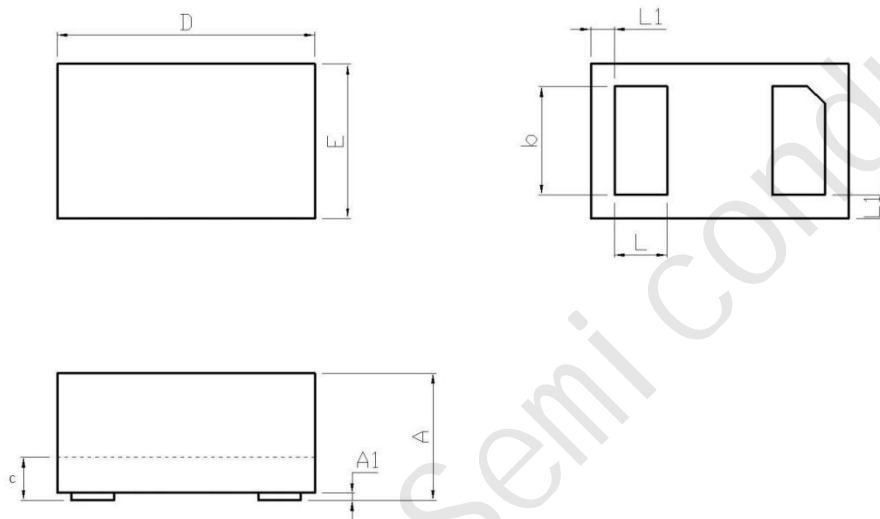
IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform(8/20 μs 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

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