



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); $I_{PPM} = 5\text{ A}$


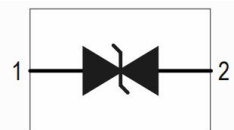
Application information

- 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
	

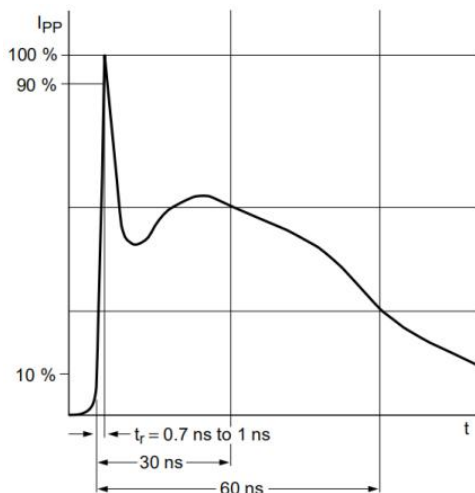
Maximum Ratings (T_{OP} = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (T _p = 8/20 μ s)	P _{PPM}	300	W
Rated Peak Pulse Current (T _p = 8/20 μ s)	I _{PPM}	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
Maximum junction temperature	T _j	150	°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

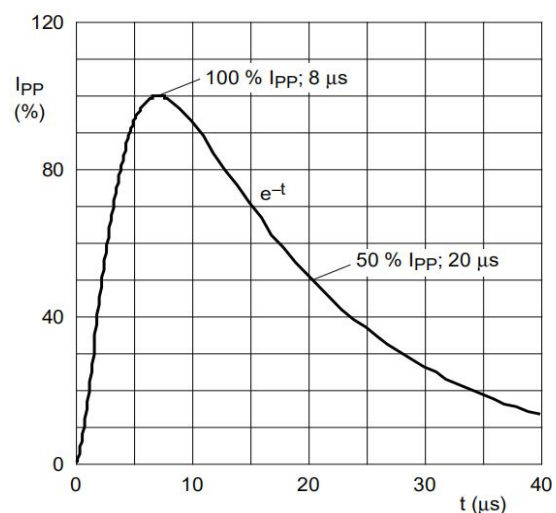
Electrical Characteristics (T_{OP} = 25 °C, unless otherwise specified)

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 =1mA
Leakage Current I _{Leak}	I _R	--	--	100	nA	V _{RWM} =24V
Clamping Voltage	V _C	--	--	60.0	V	I _{PP} =5A, T _p =8/20μs
Junction Capacitance	C _j	--	--	20	pF	V _R =0V, f=1MHz

Typical Electrical and Thermal Characteristics (Curves)



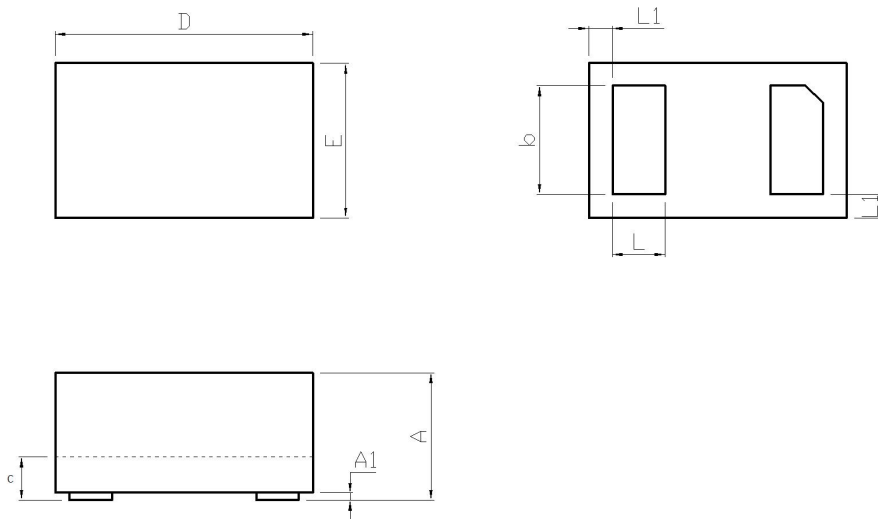
IEC61000-4-2 Waveform



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