

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
- Low operating voltage: 3.3V
- Ultra low capacitance: 0.6pF typical
- Response time is typically < 1 ns
- Ultra Low Leakage: nA Level
- IEC 61000-4-2:Air discharge: $\pm 30\text{kV}$, Contact discharge: $\pm 30\text{kV}$
- IEC 61000-4-5 (surge); IPPM = 11A



DFN1006-2L

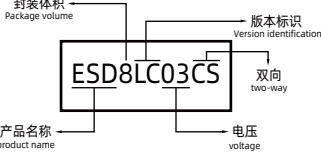
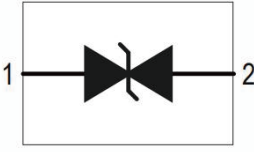
Application information

- USB Ports
- MDDI Ports
- Display Ports
- Smart phones
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports

Ordering information

Device	Package	Reel Size	Qty(PCS)
ESD8LC03CS	DFN1006-2L	7 Inch	10000

Ordering information

Marking	Naming rule	Graphic symbol
UM		

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

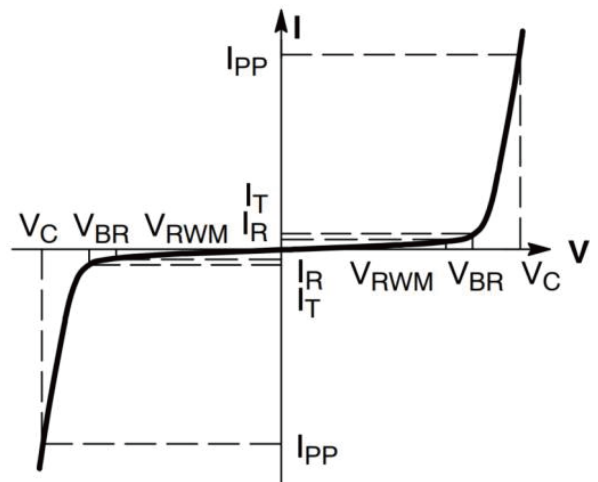
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P _{PPM}	150	W
Peak Pulse Current(tp = 8/20μs)	I _{PPM}	11	A
Maximum lead temperature for soldering during 10s	T _L	260	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C
Operating Temperature Range	T _{OP}	-40 to +125	°C
Maximum junction temperature	T _j	150	°C
ESD voltage IEC 61000-4-2 (air discharge)	V _{ESD}	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V _{ESD}	30	kV

Electrical Characteristics (T_A = 25 °C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V _{RWM}	--	--	3.3	V	
Breakdown Voltage	V _{BR}	4.0	--	5.9	V	I _T =1mA
Leakage Current I _{Leak}	I _R	--	--	100	nA	V _{RWM} =3.3V
Clamping Voltage	V _C	--	6.0	8.0	V	I _{PP} =1A, T _p =8/20μs
Clamping Voltage	V _C	--	12.0	14.0	V	I _{PP} =11A, T _p =8/20μs
Junction Capacitance	C _J	--	0.6	0.8	pF	V _R =0V, f=1MHz

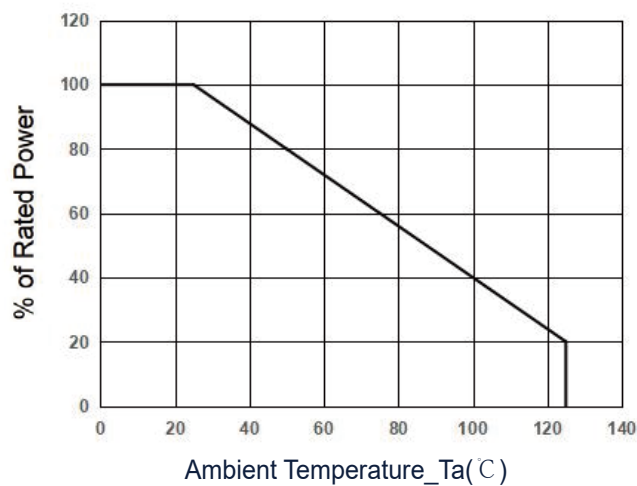
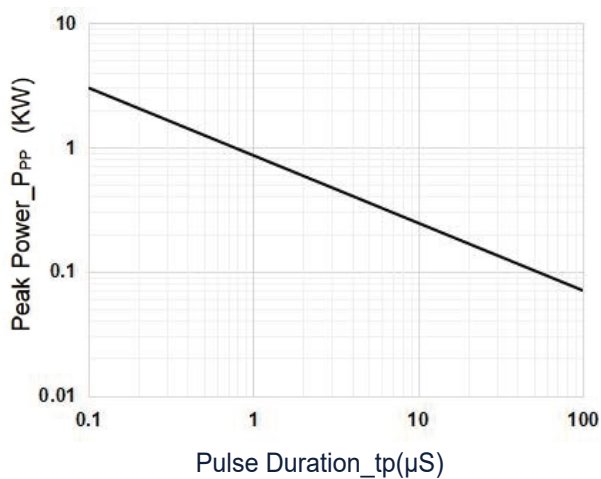
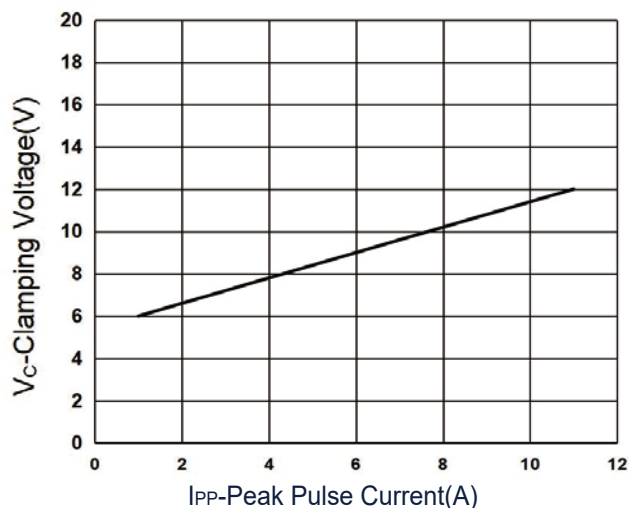
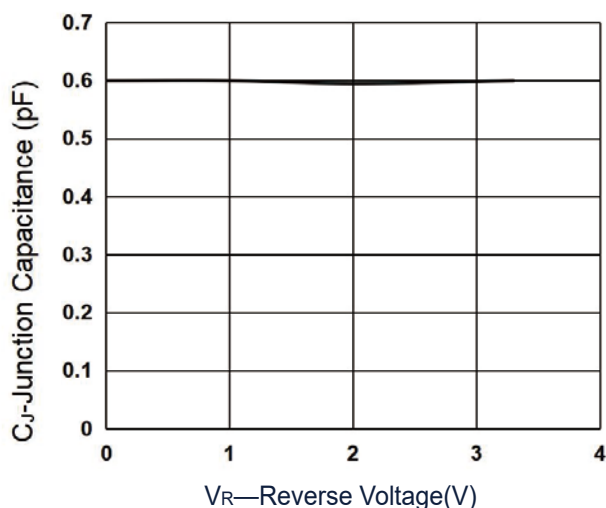
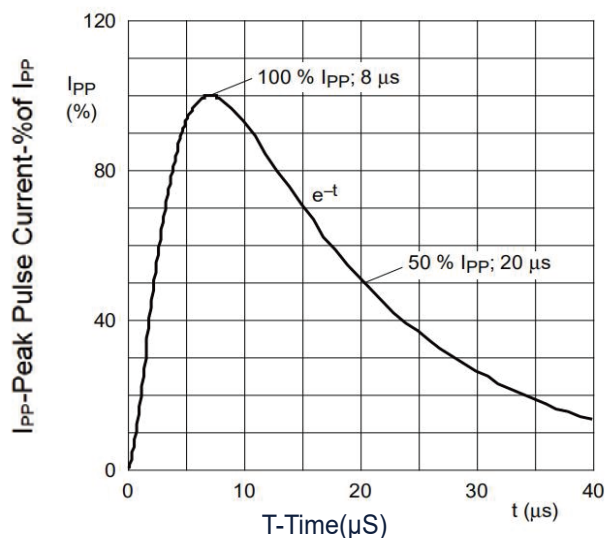
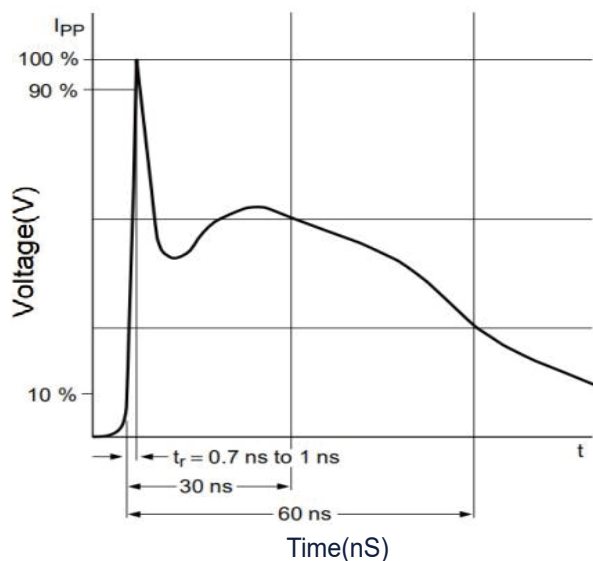
Portion Electronics Parameter

Symbol	Parameter
I _{PPM}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Reverse Leakage Current @ V _{RWM}
I _T	Test Current
V _{BR}	Breakdown Voltage @ I _T



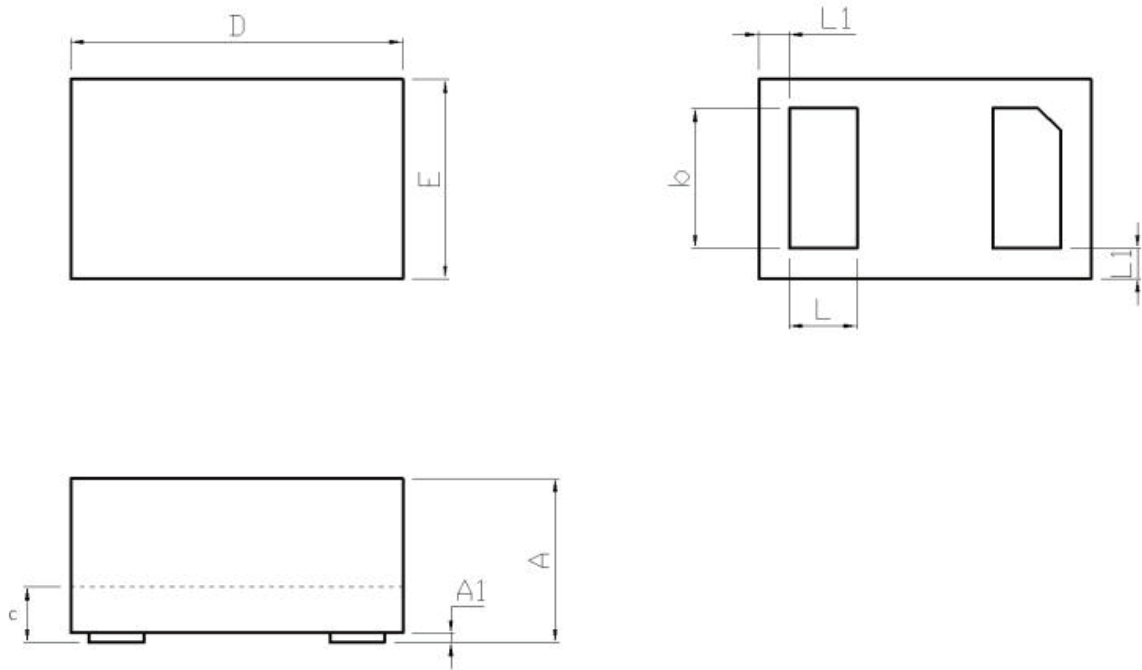


Typical Characteristics





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