D5V0L1B2LP-7B
ESD PROTECTION DIODE

Discription

Low capacitance bidirectional ElectroStatic Discharge (ESD) protection diode in a DFN1006(SOD-882) leadless ultra small Surface-Mounted Device (SMD) plastic package designed to protect one signal line from the damage caused by ESD and other transients.

DFN1006-2L

- ★ Bidirectional ESD protection of one line
- ★ Low operating voltage: 5.0 V
- ★ Low clamping voltage VC = 15V @45A
- ★ Response time is typically<1ns
- ★ Ultra Low Leakage:nALevel
- ★ IEC 61000-4-2: level 4 (ESD)
- ★ IEC 61000-4-5 (surge): IPPMQ8 A

Circuit Diagram

Applications

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

Ordering information

Product ID	Pack	Qty(PCS)
D5V0L1B2LP-7B	DFN1006-2L	10000

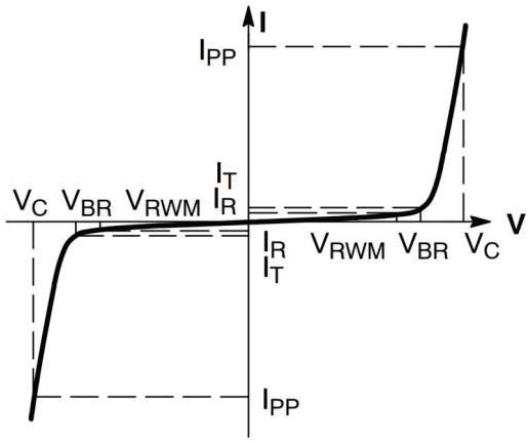
Absolute Ratings(Tamb = 25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P_{PPM}	67.5	W
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}	-55 to +150	°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

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	5.0	V	
Breakdown Voltage	V_{BR}	5.6	--	9.0	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	1.0	uA	V_{RWM}=7.0V
Clamping Voltage	V_C	--	9.5	12	V	I_{PP}=30A,Tp=8/20μs
Clamping Voltage	V_C	--	11	15	V	I_{PP}=45A,Tp=8/20μs
Junction Capacitance	C_J	--	15	20	pF	V_R=0V, f=1MHz

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

Fig 1 8/20μs Waveform per IEC61000-4-5

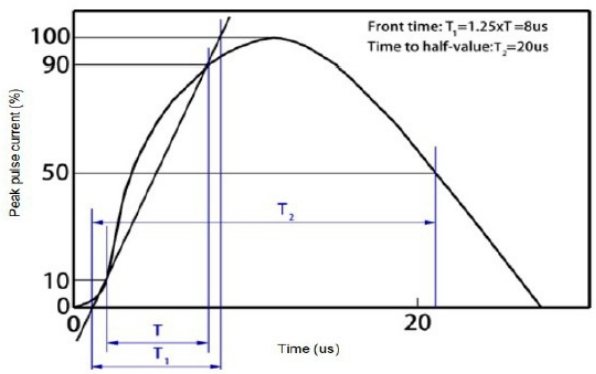


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

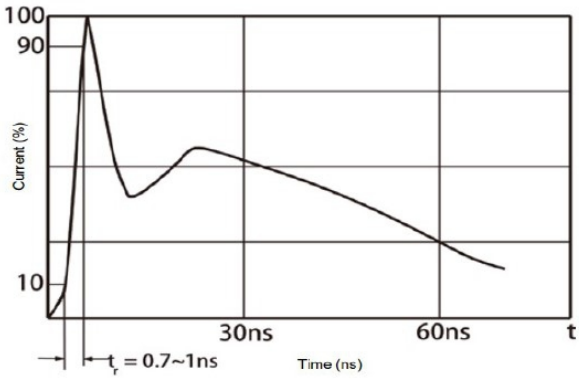


Fig 3 Voltage vs Capacitance

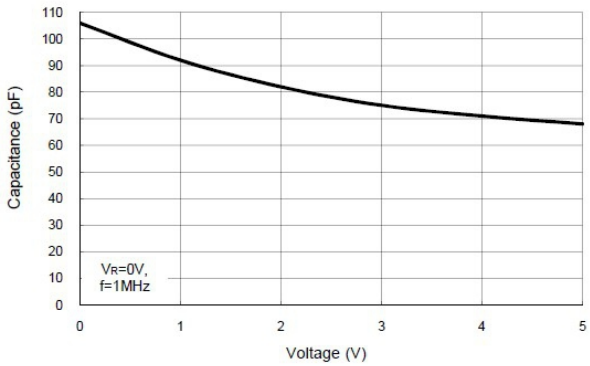
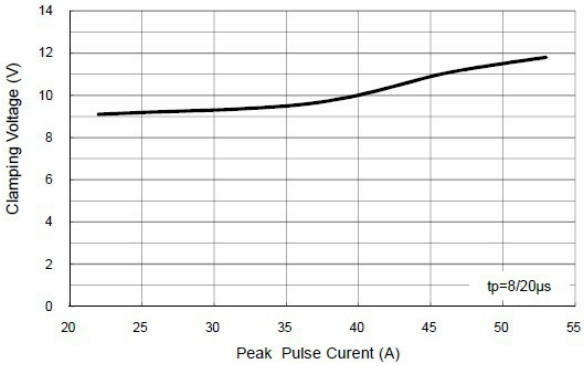
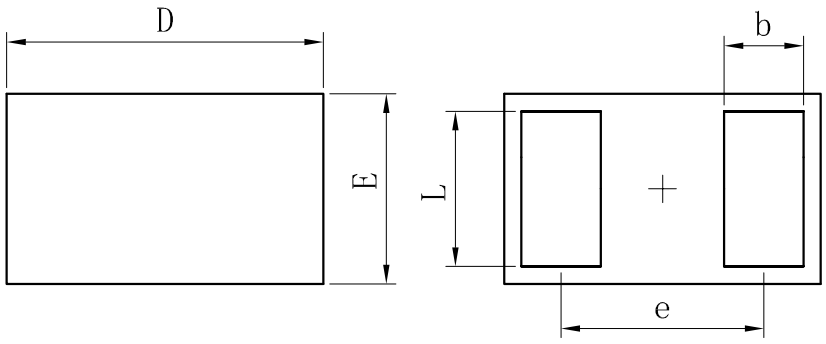


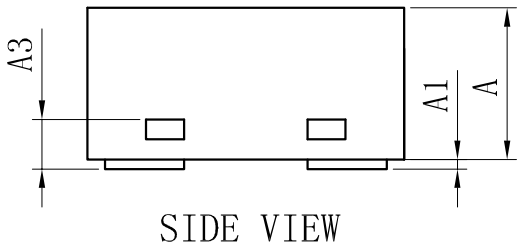
Fig 4 Clamping Voltage vs Peak Pulse Current



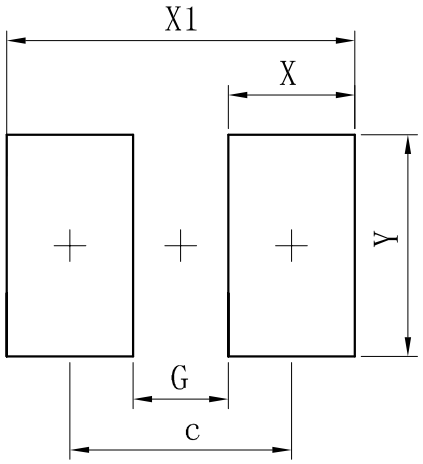
Outline And Dimensions



DFN1006-2L			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	–	0.64	–
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	–	0.05
A3	0.127REF.		
All Dimensions in mm			



Soldering Footprint



Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70

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