



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.

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



DFN1006-2L



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



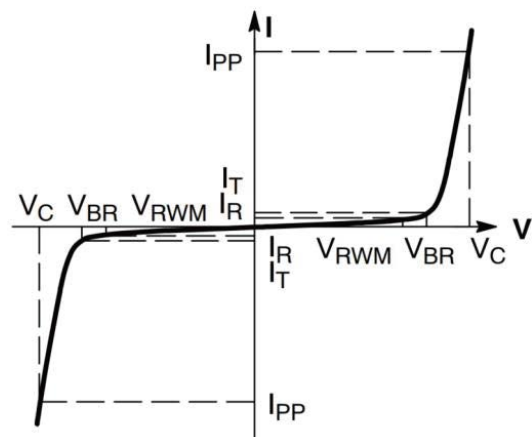
Absolute Ratings($T_{amb} = 25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PPM}	67.5	W
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}	-55 to +150	$^{\circ}\text{C}$
Maximum junction temperature	T_j	150	$^{\circ}\text{C}$
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}	--	--	50	V	
Breakdown Voltage	V_{BR}	5.6	--	9.0	V	$I_T = 1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	1.0	μA	$V_{RWM} = 7.0\text{V}$
Clamping Voltage	V_C	--	9.5	12	V	$I_{PP} = 30\text{A}, t_p = 8/20\mu\text{s}$
Clamping Voltage	V_C	--	11	15	V	$I_{PP} = 45\text{A}, t_p = 8/20\mu\text{s}$
Junction Capacitance	C_J	--	15	20	pF	$V_R = 0\text{V}, f = 1\text{MHz}$

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 8/20 μ s Waveform per IEC61000-4-5

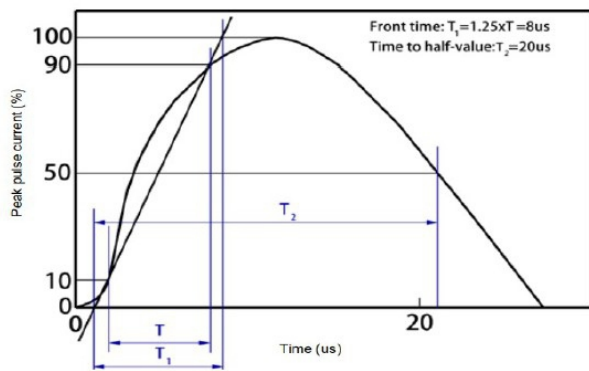


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

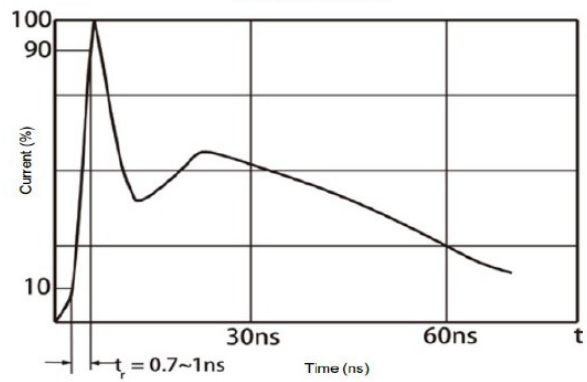


Fig 3 Voltage vs Capacitance

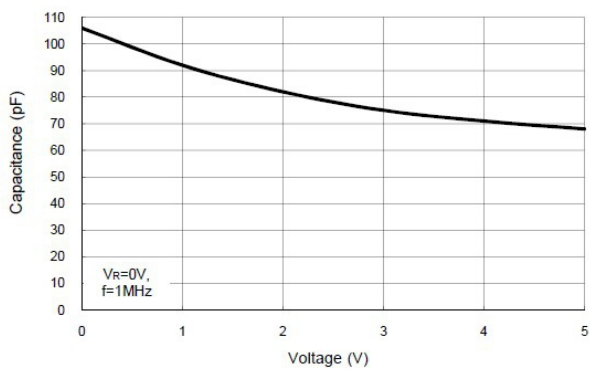
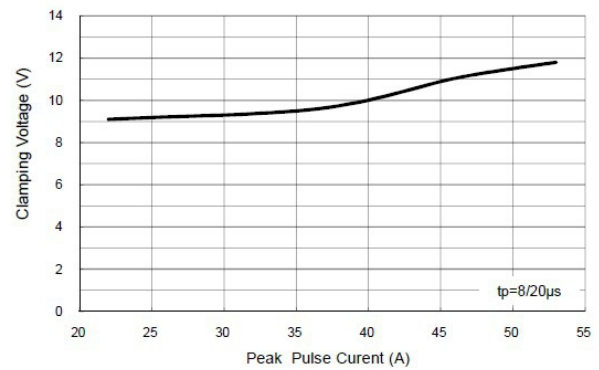


Fig 4 Clamping Voltage vs Peak Pulse Current





Outline And Dimensions



DFN1006-2L			
Dim	Min	Typ.	Max
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
All Dimensions in mm			



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