



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.

Features

- ★ Bidirectional ESD protection of one line
- ★ Low operating voltage: 7.0V
- ★ Low clamping voltage $V_C = 13V @ 8A$
- ★ Response time is typically $< 1\text{ ns}$
- ★ Ultra Low Leakage: nA Level
- ★ IEC 61000-4-2; level 4 (ESD)
- ★ IEC 61000-4-5 (surge); IPPM = 8 A

Applications

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



DFN1006-2L



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
HESDNC7VB1AF-C	DFN1006-2L	10000

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

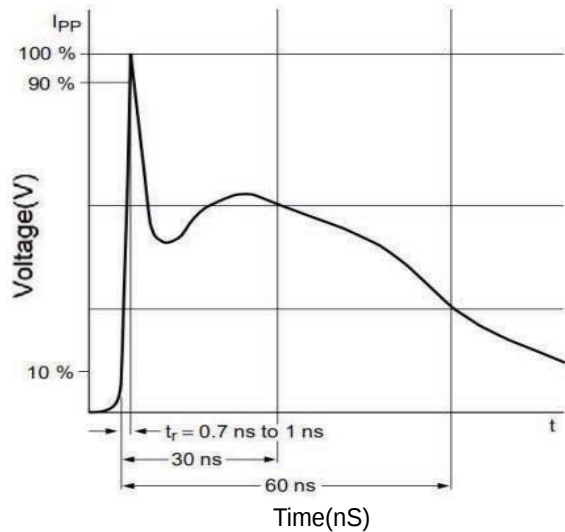
Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20\text{ }\mu\text{s}$)	104	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55 to +150	$^{\circ}C$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}C$
T_j	Maximum junction temperature	150	$^{\circ}C$
	IEC61000-4-2 (ESD)	air discharge contact discharge	± 30 ± 30 KV



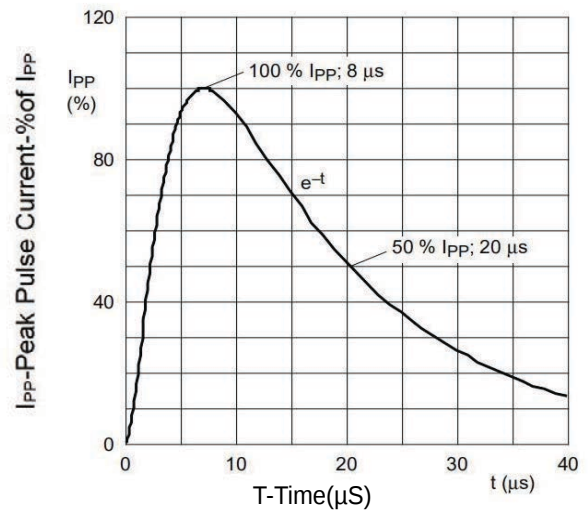
Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				7.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	7.6	8.2	9.0	V
I_R	Reverse Leakage Current	$V_{RWM} = 5.0V$			0.1	nA
V_C	Clamping Voltage	$I_{PP} = 5A, t_p = 8/20\mu s$		10.0	12.0	V
		$I_{PP} = 8A, t_p = 8/20\mu s$		11.5	13.0	V
C_J	Junction Capacitance	$V_R = 0V, f = 1MHz$		17.0	25.0	pF

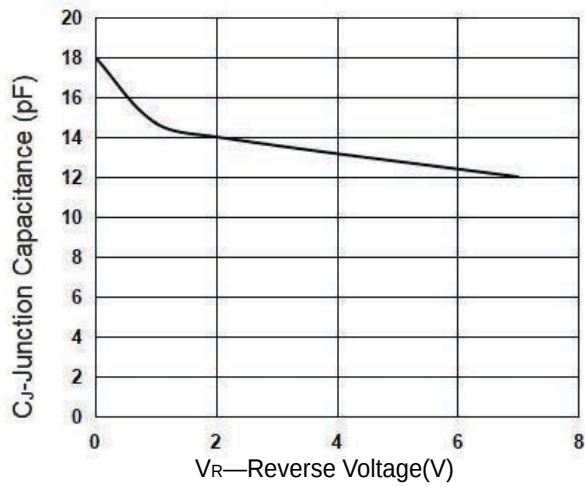
Typical Characteristics



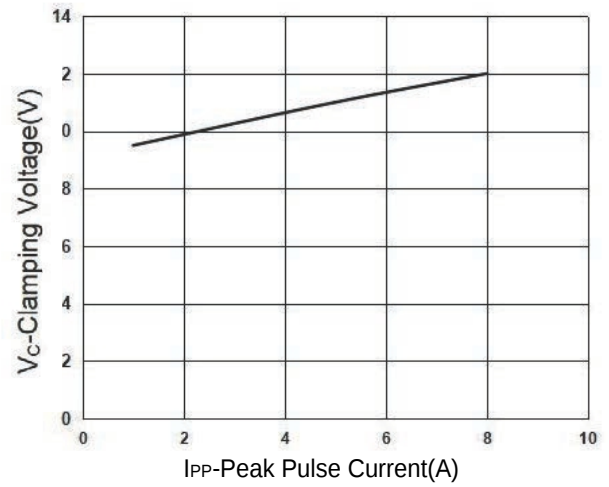
IEC61000-4-2 Pulse Waveform



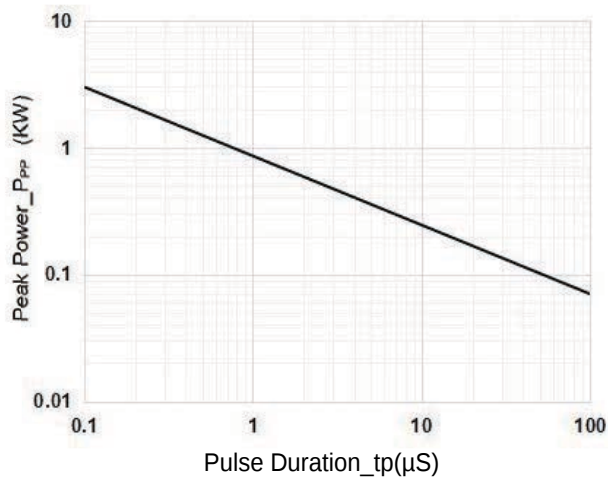
IEC61000-4-5 8X20μs Pulse Waveform



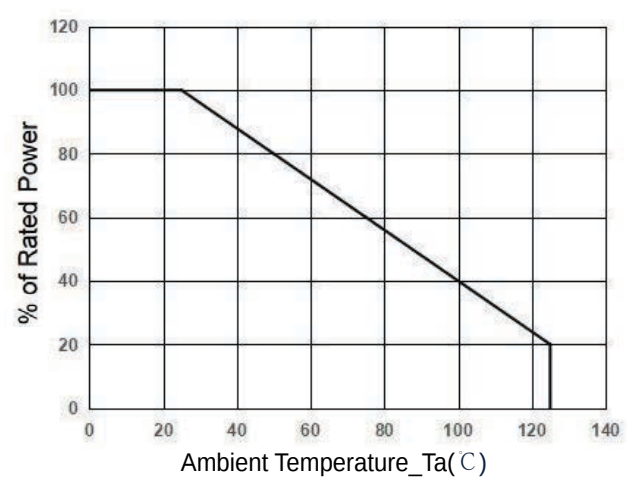
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



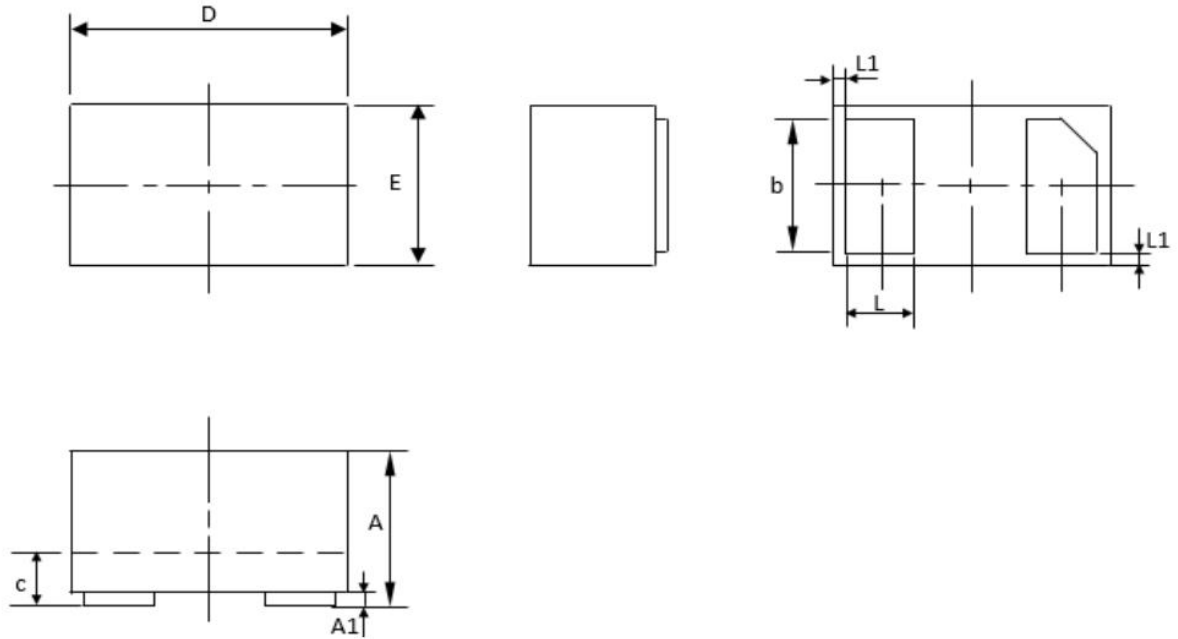
Peak Pulse Power vs. Pulse Time



Power Derating Curve



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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