



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)
CESD1006NC7VB	DFN1006-2L	10000

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

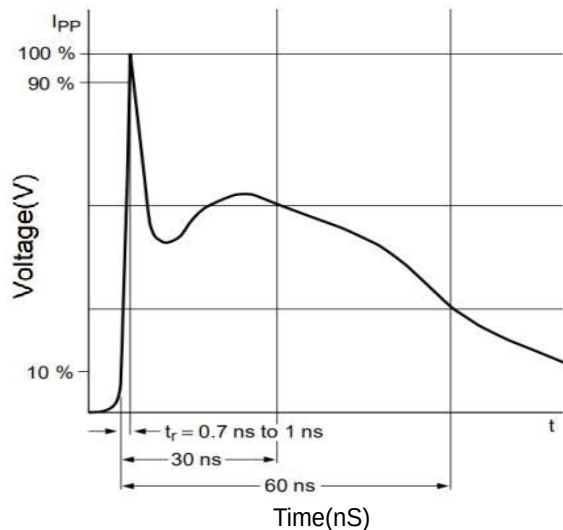
Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20\ \mu s$)	104	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55 to +150	$^{\circ}C$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}C$
T_j	Maximum junction temperature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



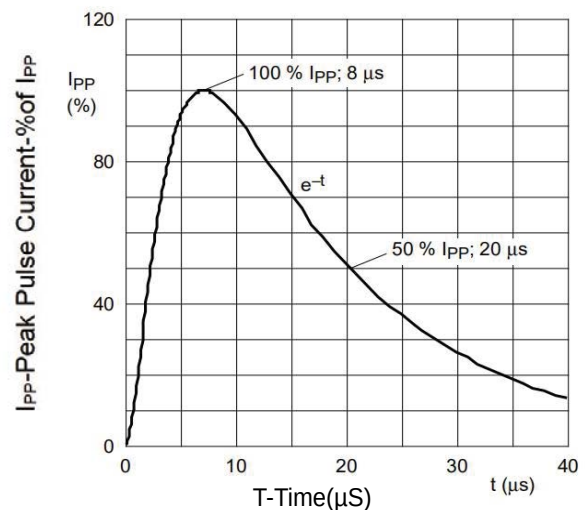
Electrical Characteristics

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

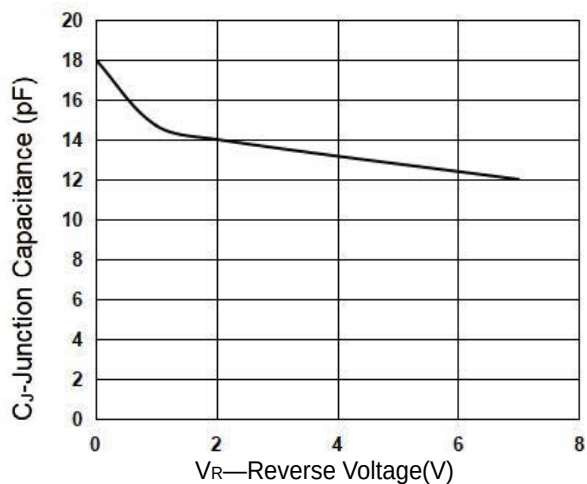
Typical Characteristics



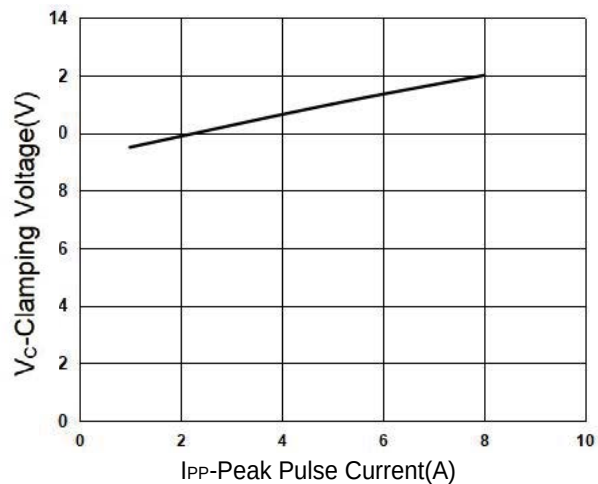
IEC61000-4-2 Pulse Waveform



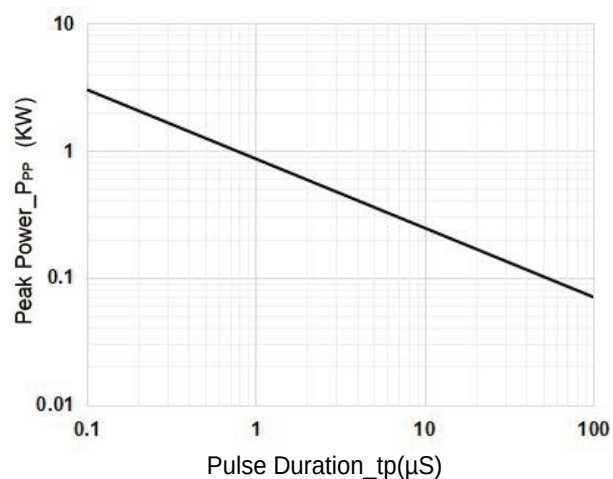
IEC61000-4-5 8X20μs Pulse Waveform



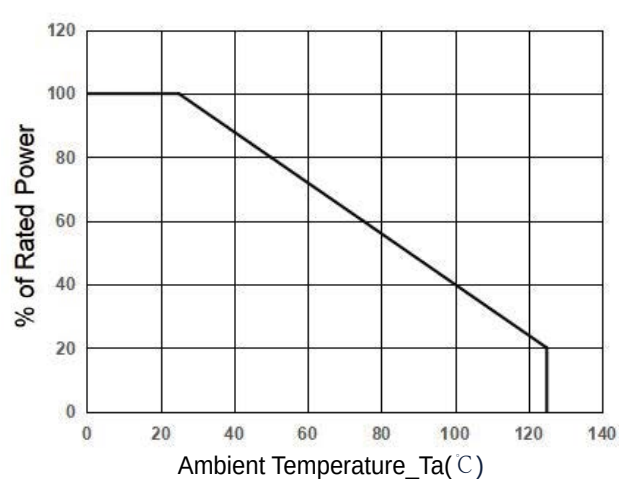
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



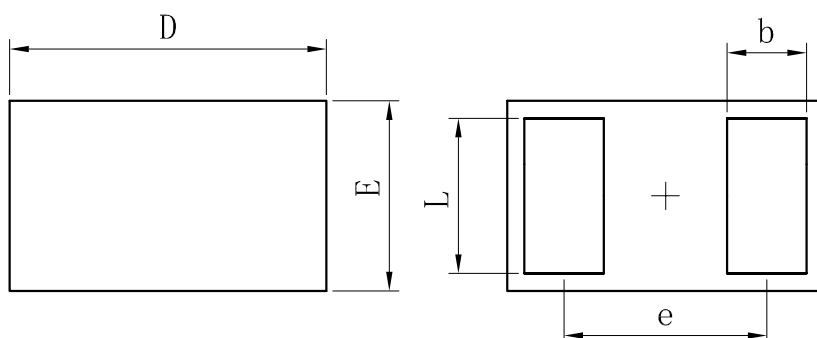
Peak Pulse Power vs. Pulse Time



Power Derating Curve

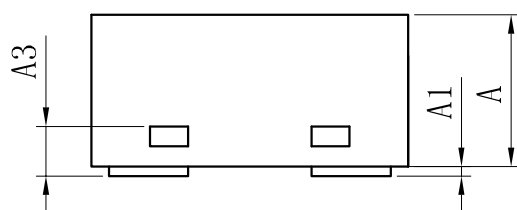


Outline And Dimensions



TOP VIEW

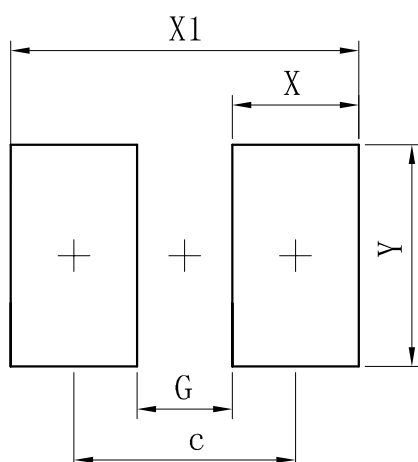
BOTTOM VIEW



SIDE VIEW

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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