



### Discription

The ESD8D12C protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



DFN1006-2L  
(SOD-882)

### Features

- ★ Small Body Outline Dimensions:  
1.00 mm x 0.60 mm
- ★ Low Body Height: 0.50 mm
- ★ Low Leakage
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 per Human Body Model
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ We declare that the material of product compliance with RoHS requirements and Halogen Free.



Circuit Diagram

### Ordering information

Product ID	Pack	Qty(PCS)
ESD8D12C	DFN1006-2L(SOD-882)	10000

### Absolute Ratings (T<sub>amb</sub>=25°C )

Symbol	Parameter	Value	Units
P <sub>PP</sub>	Peak Pulse Power (t <sub>p</sub> = 8/20 μ s)	140	W
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>op</sub>	Operating Temperature Range	-55 to +150	°C
T <sub>j</sub>	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD)	air discharge contact discharge	±20 ±20 KV



### Electrical Characteristics

Device	$V_{RWM}$ (V)	$I_R$ ( $\mu$ A) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$		$I_T$	$V_C$ (V) @ $I_{PP}=8A$	$I_{PP}$ (A)	$P_{PK}$ (W)	C (pF)
	Max	Max	Min	Max	mA	Max	Max	Max	Typ.
ESD8D12C	12	1	13.3	16	1.0	17	8	100	8

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.
- Surge current waveform per Figure 1.

### Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise Specified)

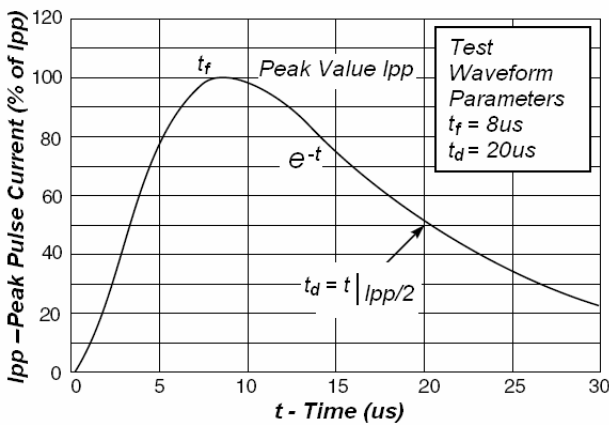


Fig1. Pulse Waveform

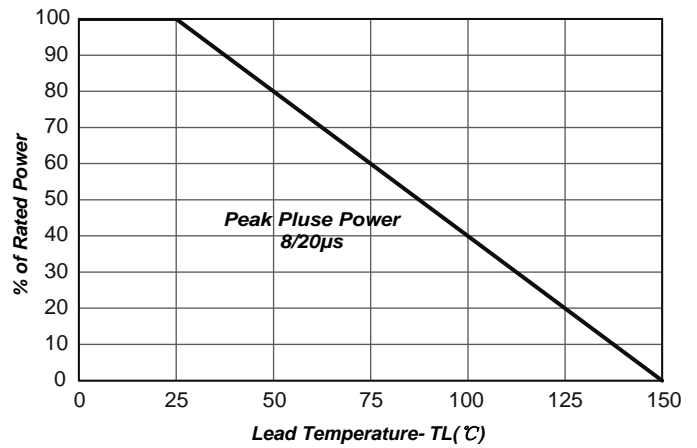


Fig2. Power Derating Curve

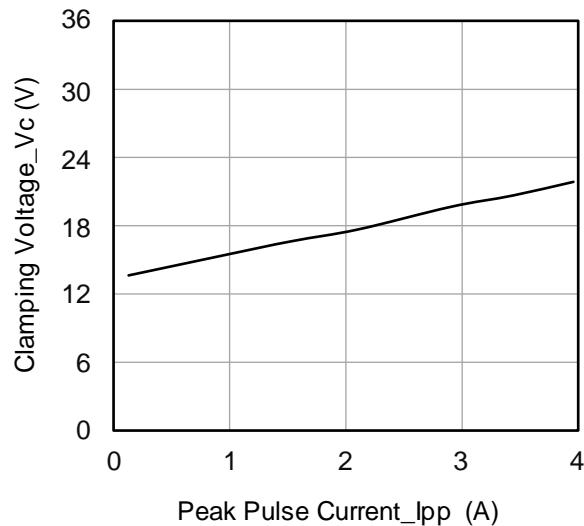
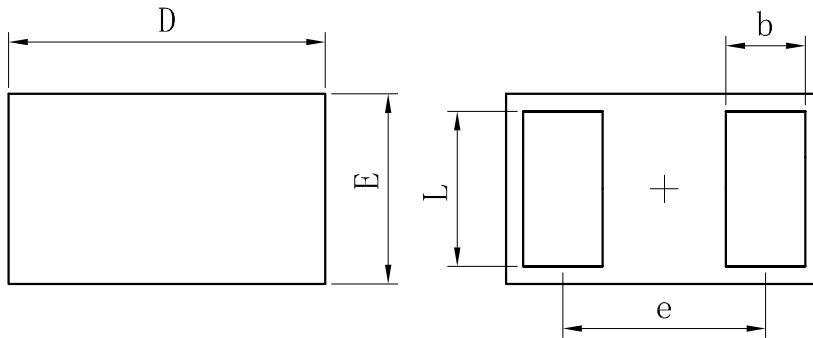


Fig 5. Clamping Voltage vs. Peak Pulse Current



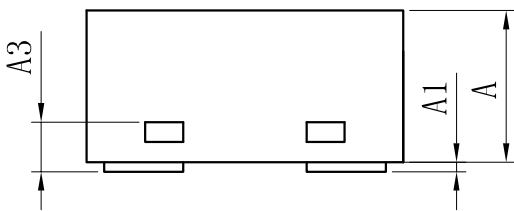
**OUTLINE AND DIMENSIONS**



TOP VIEW

BOTTOM VIEW

DFN1006-2L(SOD-882)			
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			



SIDE VIEW

**SOLDERING FOOTPRINT**



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



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