ESD8B12
ESD PROTECTION DIODE

Discription

The ESD8B12 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 unidirectional line in applications where arrays are not practical.

DFN1006-2L

Features

- ★ Small Body Outline Dimensions
- ★ 300 Watts peak pulse power (tp = 8/20μs)
- ★ Small package for use in portable electronics
- ★ Suitable replacement for MLV's in ESD protection applications
- ★ Protects one I/O or power line
- ★ Low clamping voltage
- ★ Working voltages: 12V
- ★ Low leakage current
- ★ Solid-state silicon-avalanche technology
- ★ We declare that the material of product compliance with RoHS requirements.
- ★ S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
ESD8B12	DFN1006-2L	10000

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PK}	Peak Pulse Power (t_p = 8/20μs)	300	W
V_{ESD}	ESD Voltage(HBM Waveform per IEC 61000-4-2)	30	kV
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Maximum junction temperature	-55 to +125	°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.VF = 0.9V at IF = 10mA

Device	V_{RWM} (V)	I_R(uA) @ V_{RWM}=5V	V_{BR} (V)@ I_t=1mA	V_C (V) @ I_{PP}=5 A t_p=8/20μs	V_C (V) @ I_{PP}=24 t_p=8/20μs	I_{PP} (A) t_p=8/20μs	C (pF)
	Max	Max	Min	Typ	Typ	Max	Typ
ESD8B12	12.0	1.0	13.3	19.0	16.5	50	100

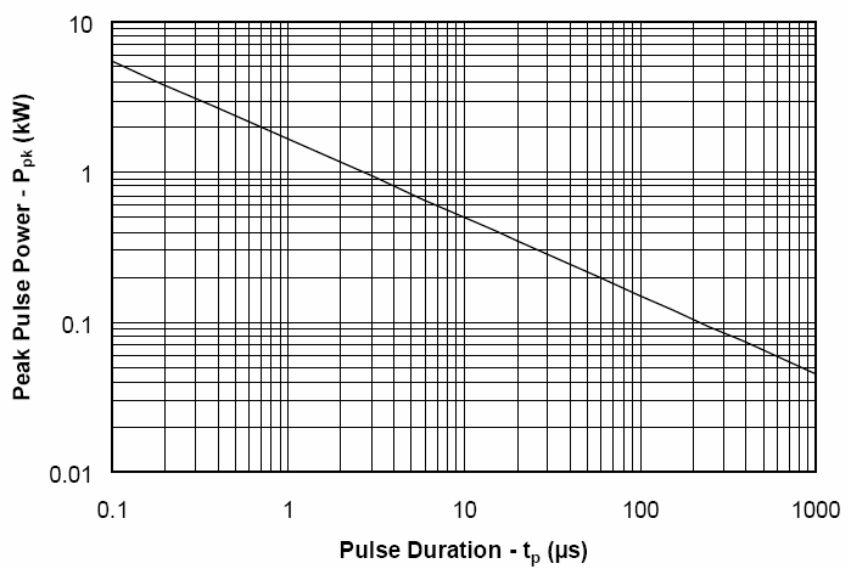


Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

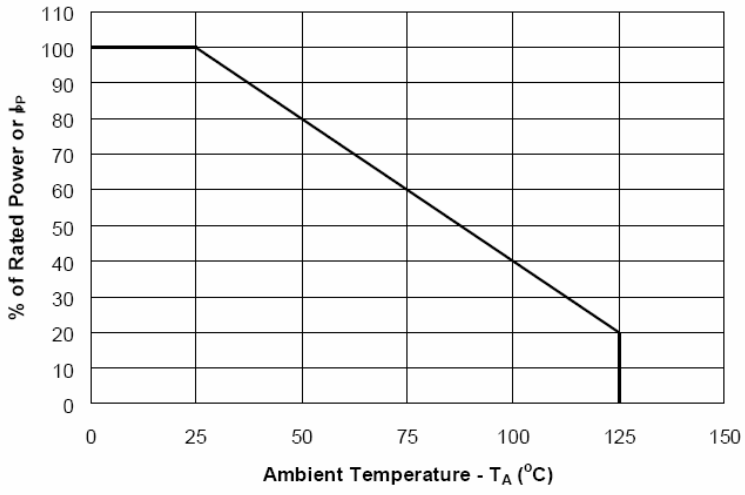


Fig.2 Power Derating Curve

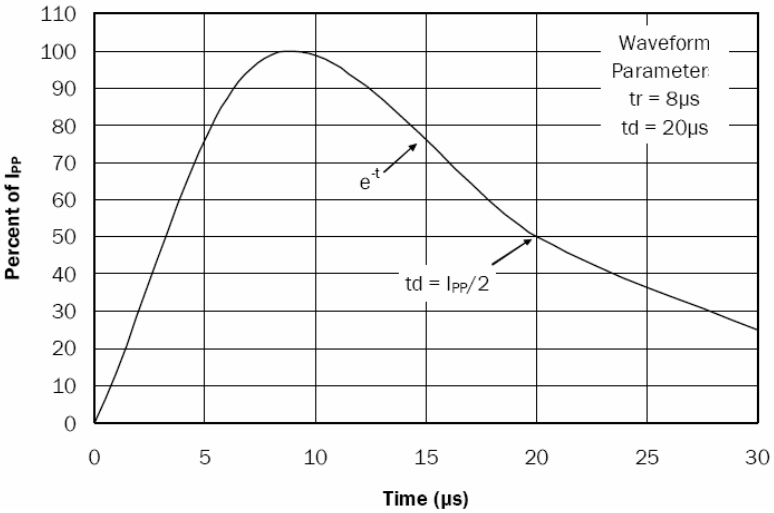
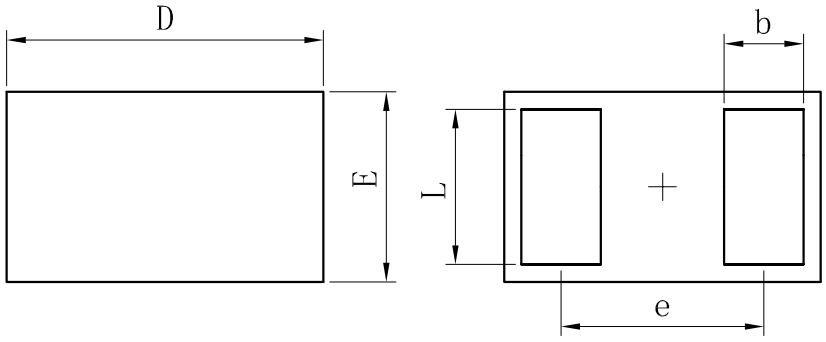
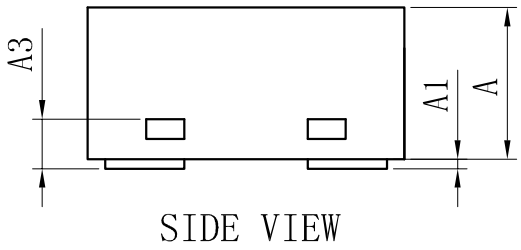


Fig.3 Waveform

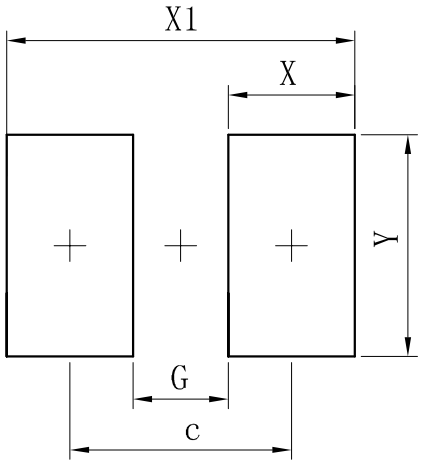
Outline and Dimensions



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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