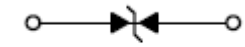
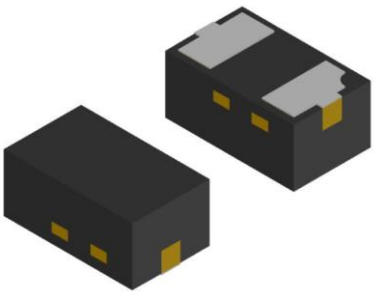
# 1- Line, Bi-directional, Transient Voltage Suppressor



**DFN1006-2L**

## Features

- Ultra small package
- Stand-off voltage: 3.3V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): 12kV (contact)
  IEC61000-4-5(surge): 4A (8/20μs)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

## Applications

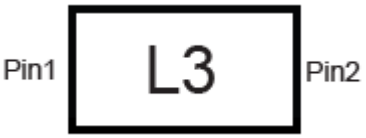
- Cellular handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

*Caution:*

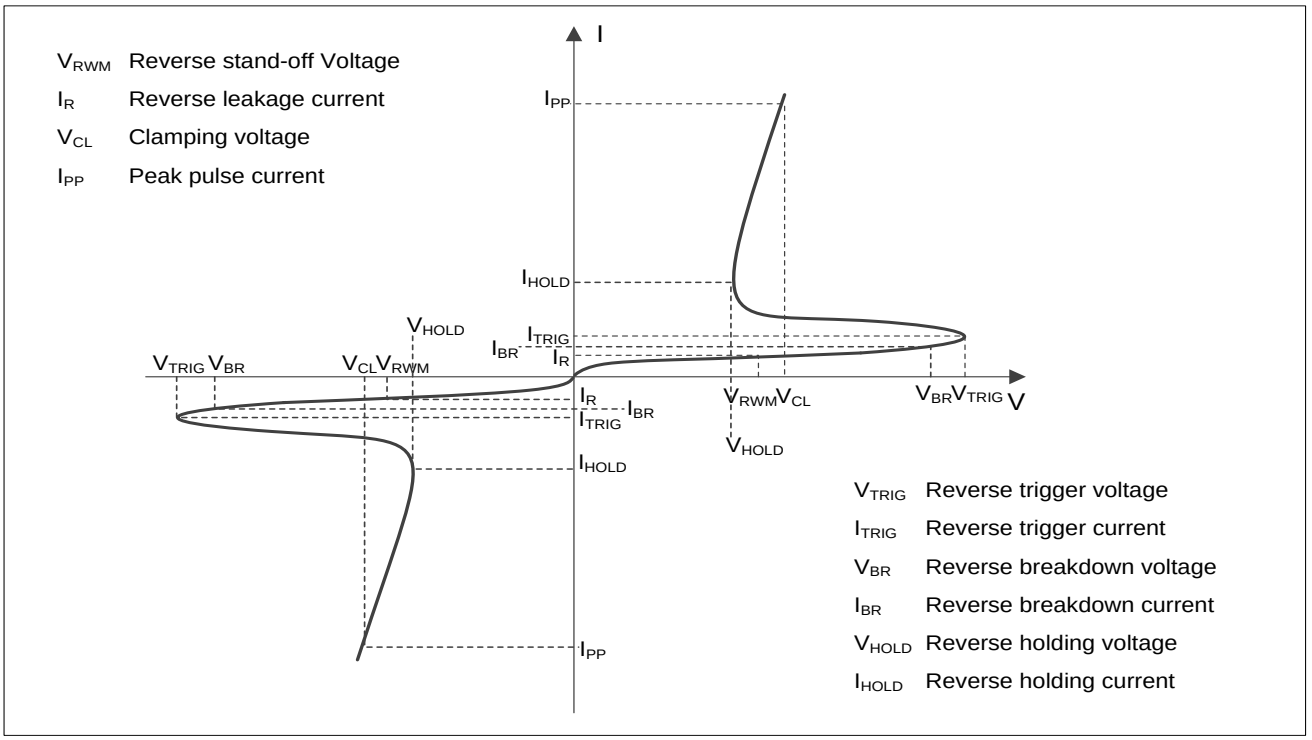
*This Device is designed for signal line protection only. Do not operate under electrical bias or connect to a power line.*

## Mechanical Characteristics

- Package: DFN1006-2L
- Case Material: “Green” Molding Compound.
- Marking Information: See Below




## ■Definitions of electrical characteristics



## ■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

| PARAMETER | SYMBOL | Rating | UNIT |
|---|---|---|---|
| Peak pulse power ($t_p$ = 8/20μs) | $P_{pk}$ | 13 | W |
| Peak pulse current ($t_p$ = 8/20μs) | $I_{PP}$ | 4 | A |
| ESD according to IEC61000-4-2 air discharge | $V_{ESD}$ | ±15 | KV |
| ESD according to IEC61000-4-2 contact discharge | | ±12 | KV |
| Junction temperature | $T_J$ | -55~125 | °C |
| Storage temperature | $T_{STG}$ | -55~150 | °C |

## ■Electrical Characteristics ($T_a$=25℃ Unless otherwise specified)

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|---|---|---|---|---|---|---|
| Reverse maximum working voltage | $V_{RWM}$ | V | | | | 3.3 |
| Reverse breakdown voltage | $V_{BR}$ | V | $I_{BR}$ = 1mA | 4.5 | | 8 |
| Reverse leakage current | $I_R$ | uA | $V_{RWM}$ =3.3V | | | 0.1 |
| Clamping voltage 3) | $V_{CL}$ | V | $I_{PP}$ = 1A, $t_p$ = 8/20μs | | 1.75 | |
| | | V | $I_{PP}$ = 4A, $t_p$ = 8/20μs | | 2.9 | |
| Junction capacitance | $C_J$ | pF | $V_R$ = 1V, f = 1MHz | | 0.2 | |

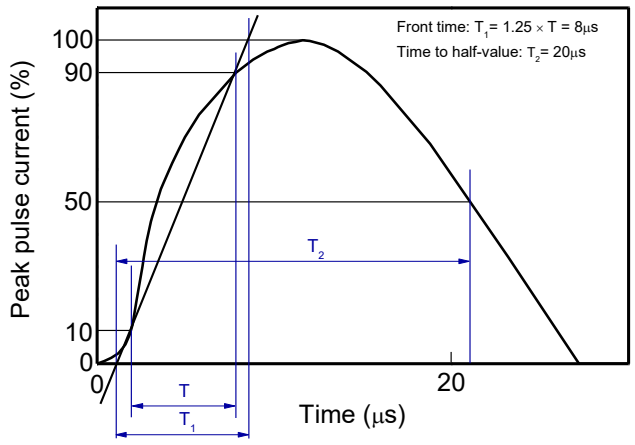
(1). TLP parameter: $Z_0$ = 50Ω, $t_p$ = 100ns, $t_r$ = 2ns, averaging window from 60ns to 80ns. $R_{DYN}$ is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

## ■Ordering Information (Example)

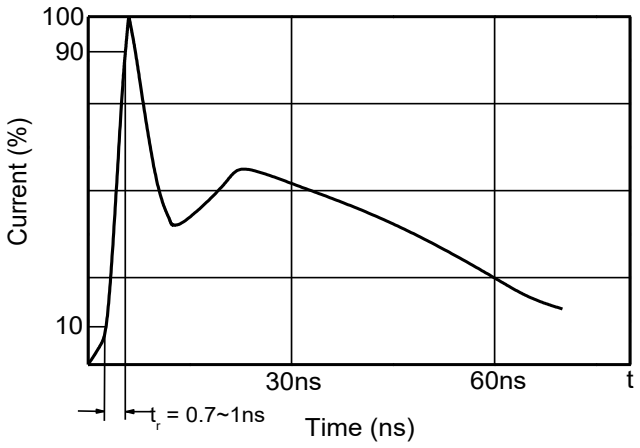
| PREFERED P/N | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|
| SESDULC3V3LB | Approximate 0.9 | 10000 | 100000 | 400000 | Tae& reel |

## ■ Typical Performance Characteristics (Ta=25℃ unless otherwise Specified)

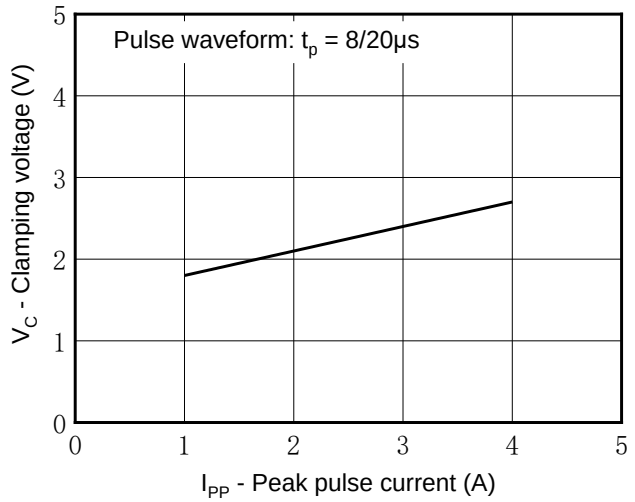
**8/20μs waveform per IEC61000-4-5**



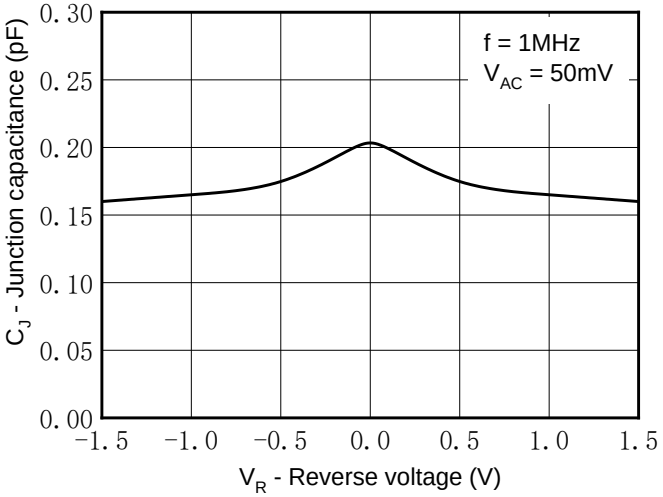

**Contact discharge current waveform per IEC61000-4-2**



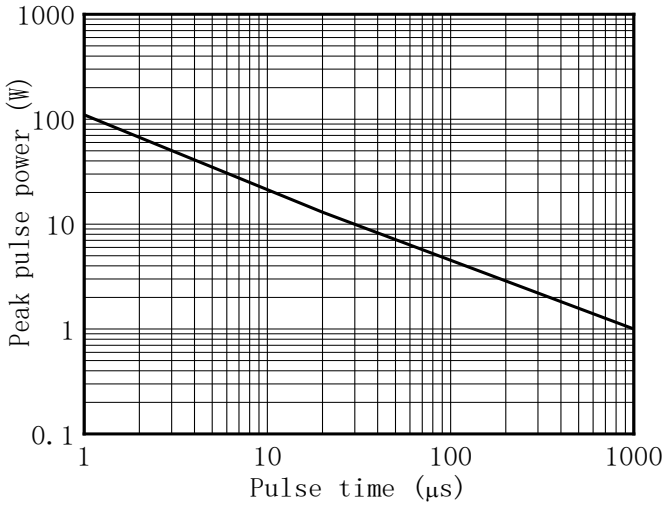

**Clamping voltage vs. Peak pulse current**



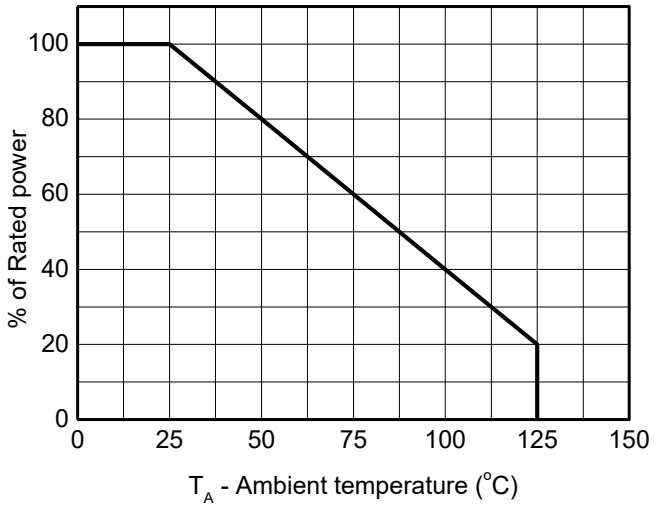

**Capacitance vs. Reverse voltage**



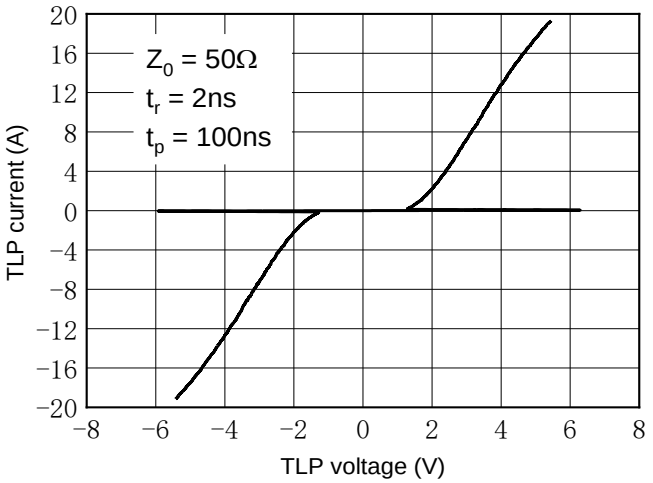

**Non-repetitive peak pulse power vs. Pulse time**



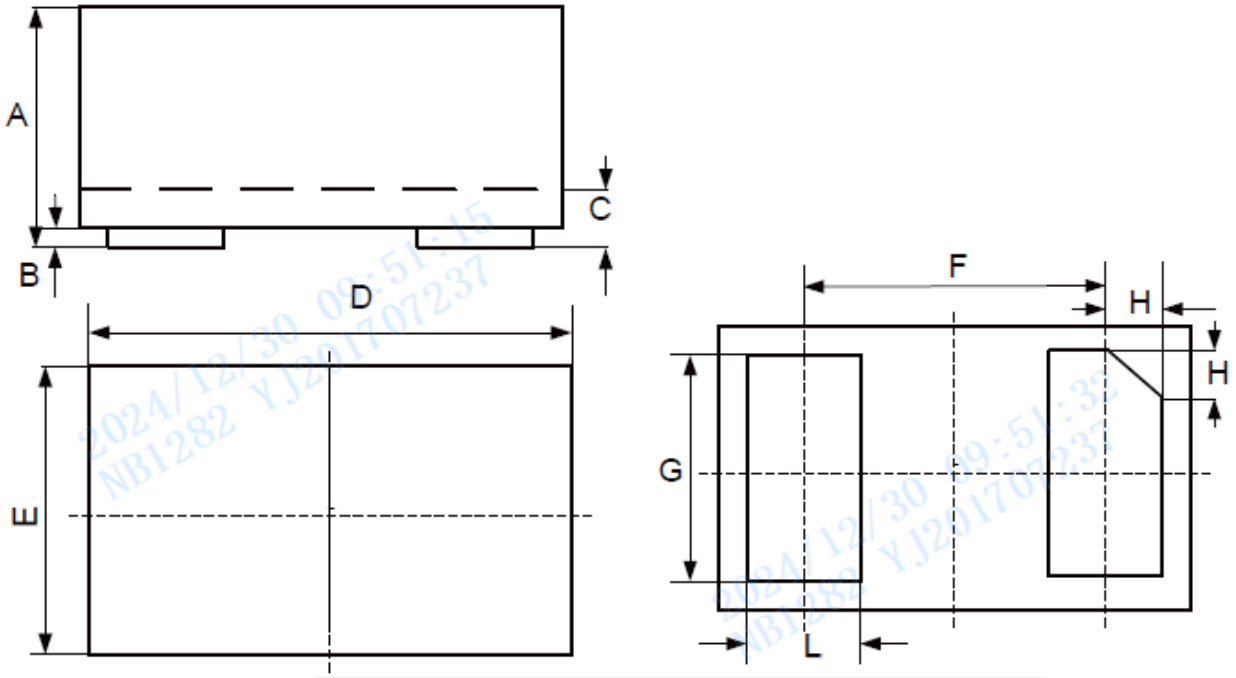

**Power derating vs. Ambient temperature**



**TLP Measurement**

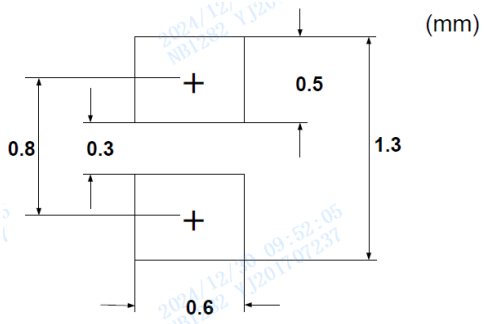


## ■ Outline Dimensions




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.016 | 0.022 | 0.40 | 0.55 | |
| B | 0.000 | 0.002 | 0.00 | 0.05 | |
| C | 0.005 | 0.007 | 0.12 | 0.18 | |
| D | 0.037 | 0.041 | 0.95 | 1.05 | |
| E | 0.022 | 0.026 | 0.55 | 0.65 | |
| F | 0.026 | | 0.650 | | TYP. |
| G | 0.018 | 0.022 | 0.45 | 0.55 | |
| H | 0.003 | 0.007 | 0.07 | 0.17 | |
| L | 0.008 | 0.012 | 0.20 | 0.30 | |

## ■ Recommend land pattern (Unit:mm)




Unit：mm

Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met

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