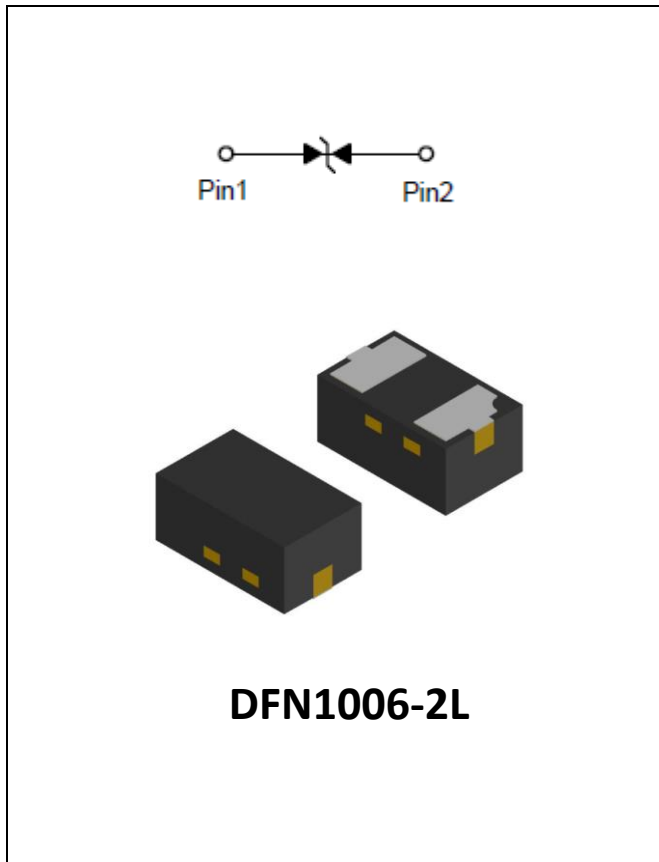


## 1- Line, Bi-directional, Transient Voltage Suppressor



### Features

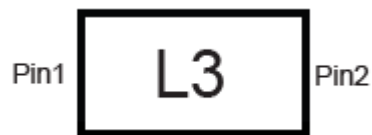
- Ultra small package
- Stand-off voltage: 3.3V Max
- Transient protection for each line according to  
IEC61000-4-2(ESD): 12kV (contact)  
IEC61000-4-5(surge): 4A (8/20 $\mu$ s)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

### Applications

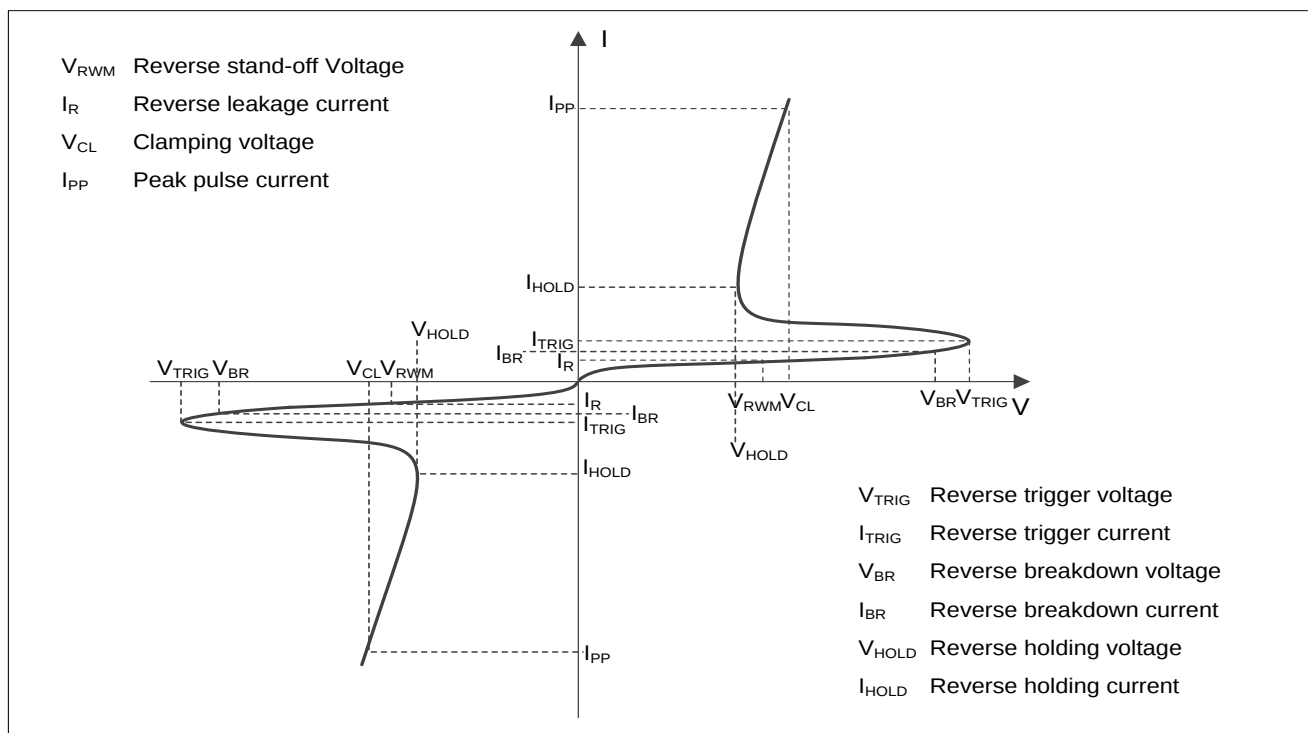
- Cellular handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

### Mechanical Characteristics

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



### ■Definitions of electrical characteristics





## SESDULC3V3LB

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

| PARAMETER                                       | SYMBOL    | Rating  | UNIT |
|-------------------------------------------------|-----------|---------|------|
| Peak pulse power ( $t_p = 8/20\mu s$ )          | $P_{pk}$  | 13      | W    |
| Peak pulse current ( $t_p = 8/20\mu s$ )        | $I_{PP}$  | 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 (Ta=25°C 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 <sup>3)</sup>  | $V_{CL}$  | V    | $I_{PP} = 1A, t_p = 8/20\mu s$ |     | 1.75 |     |
|                                 |           | V    | $I_{PP} = 4A, t_p = 8/20\mu s$ |     | 2.9  |     |
| Junction capacitance            | $C_J$     | pF   | $V_R = 1V, f = 1MHz$           |     | 0.2  |     |

- (1). TLP parameter:  $Z_0 = 50\Omega$ ,  $t_p = 100ns$ ,  $t_r = 2ns$ , 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)

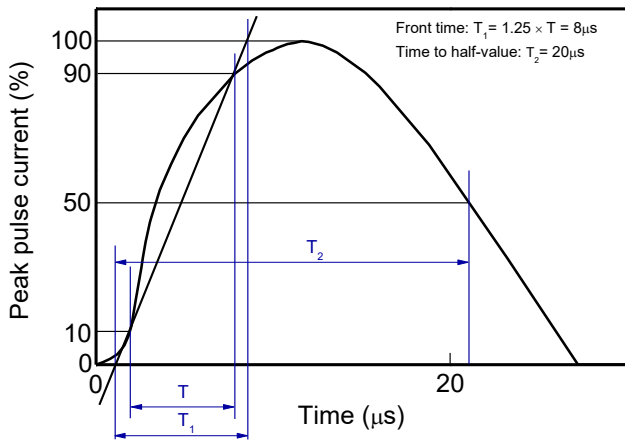
| PREFERED P/N | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| SESDULC3V3LB | Approximate 0.9 | 10000  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



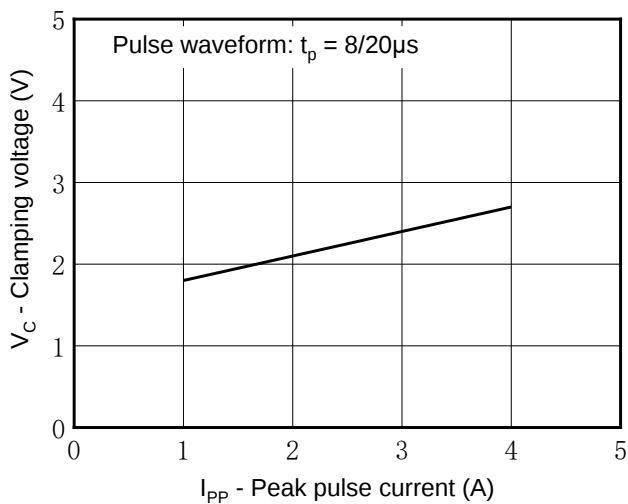
## SESDULC3V3LB

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

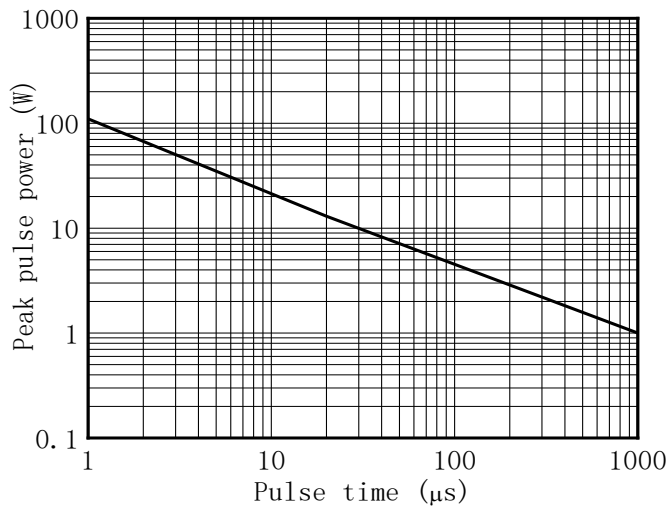
8/20μs waveform per IEC61000-4-5



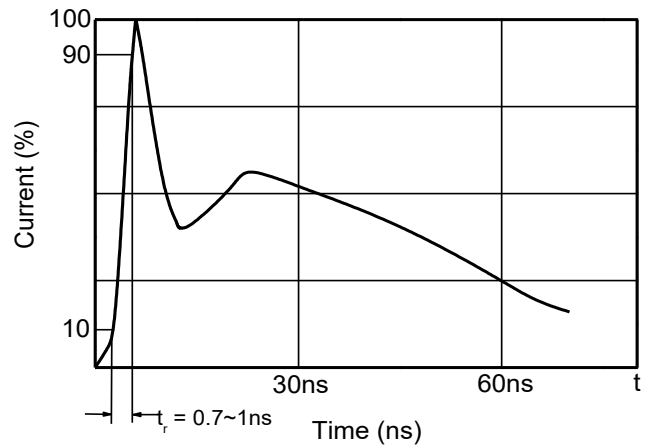
Clamping voltage vs. Peak pulse current



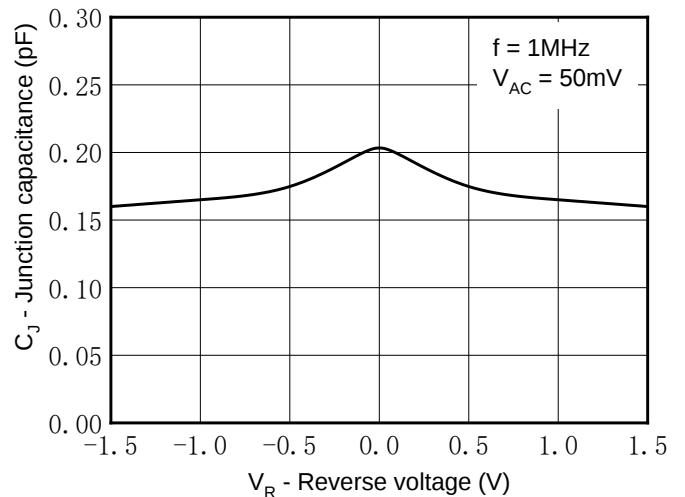
Non-repetitive peak pulse power vs. Pulse time



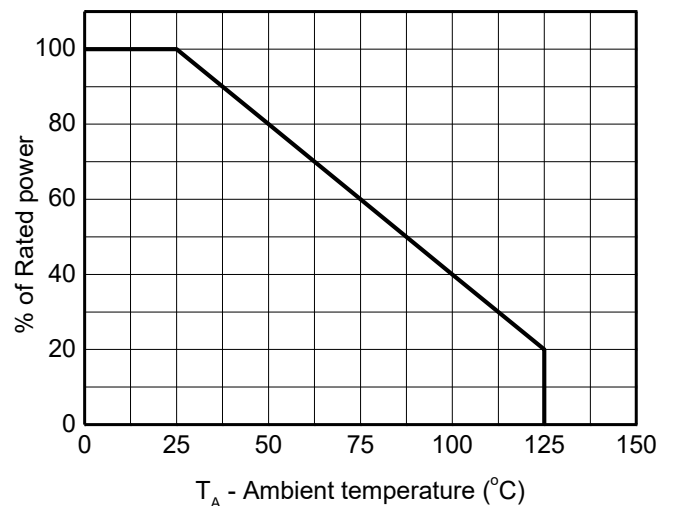
Contact discharge current waveform per IEC61000-4-2



Capacitance vs. Reverse voltage

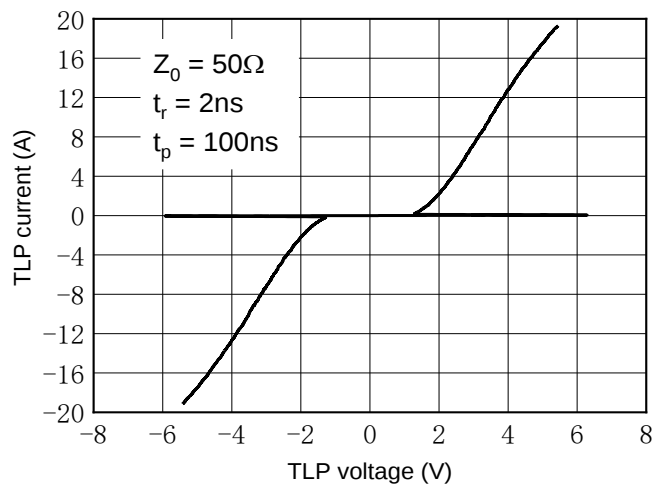


Power derating vs. Ambient temperature



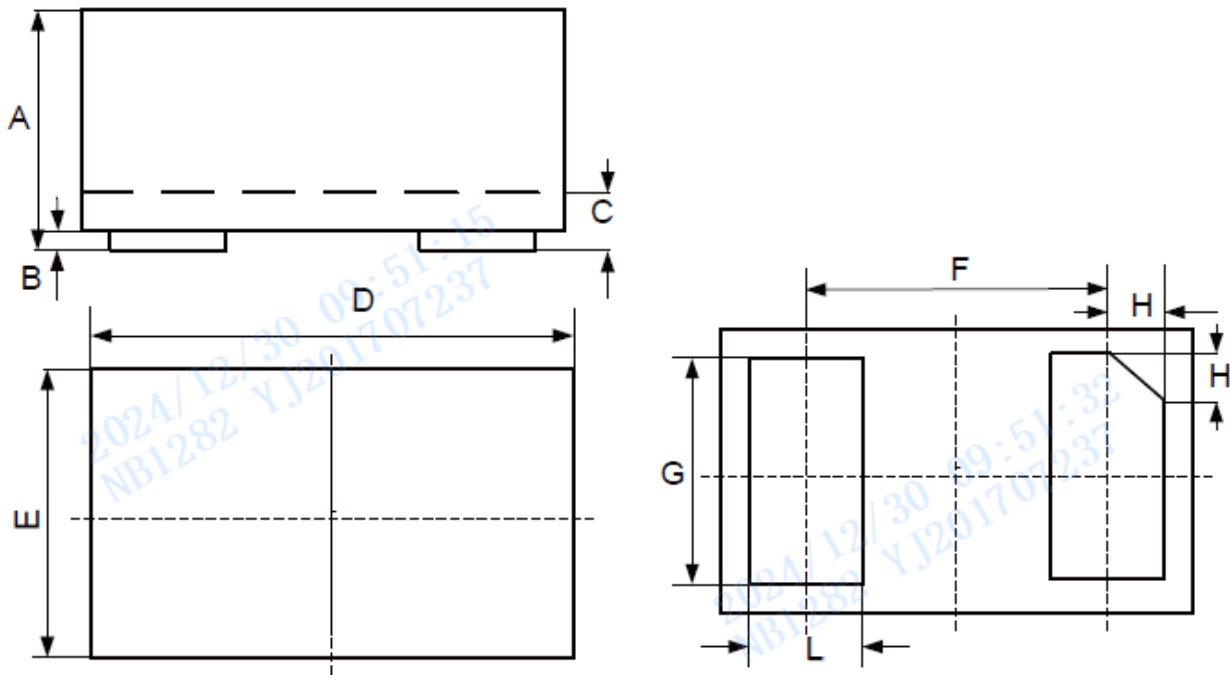


TLP Measurement



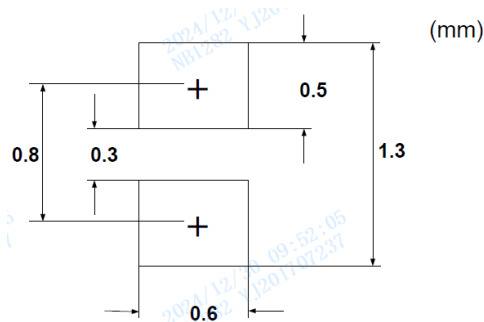


## ■ Outline Dimensions



| 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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