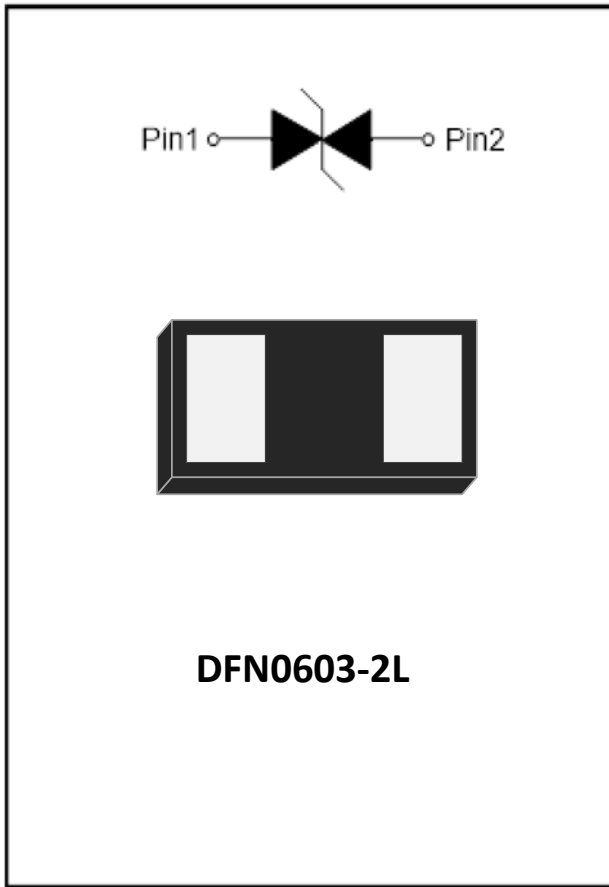


1- Line, Bi-directional, Ultra-low Capacitance, Transient Voltage Suppressor



Features

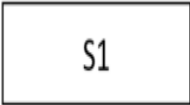
- Stand-off voltage: $\pm 3.3V$ Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 16kV$ (contact)
IEC61000-4-5(surge): 5.5A (8/20 μs)
- Low leakage current
- Ultra-low capacitance: $C_j = 0.3pF$ typ.
- Low clamping voltage:
 $V_{CL} = 7.5V$ typ. @ $I_{PP} = 16A$ (TLP)
- RoHS Compliant
- Solid-state silicon technology

Applications

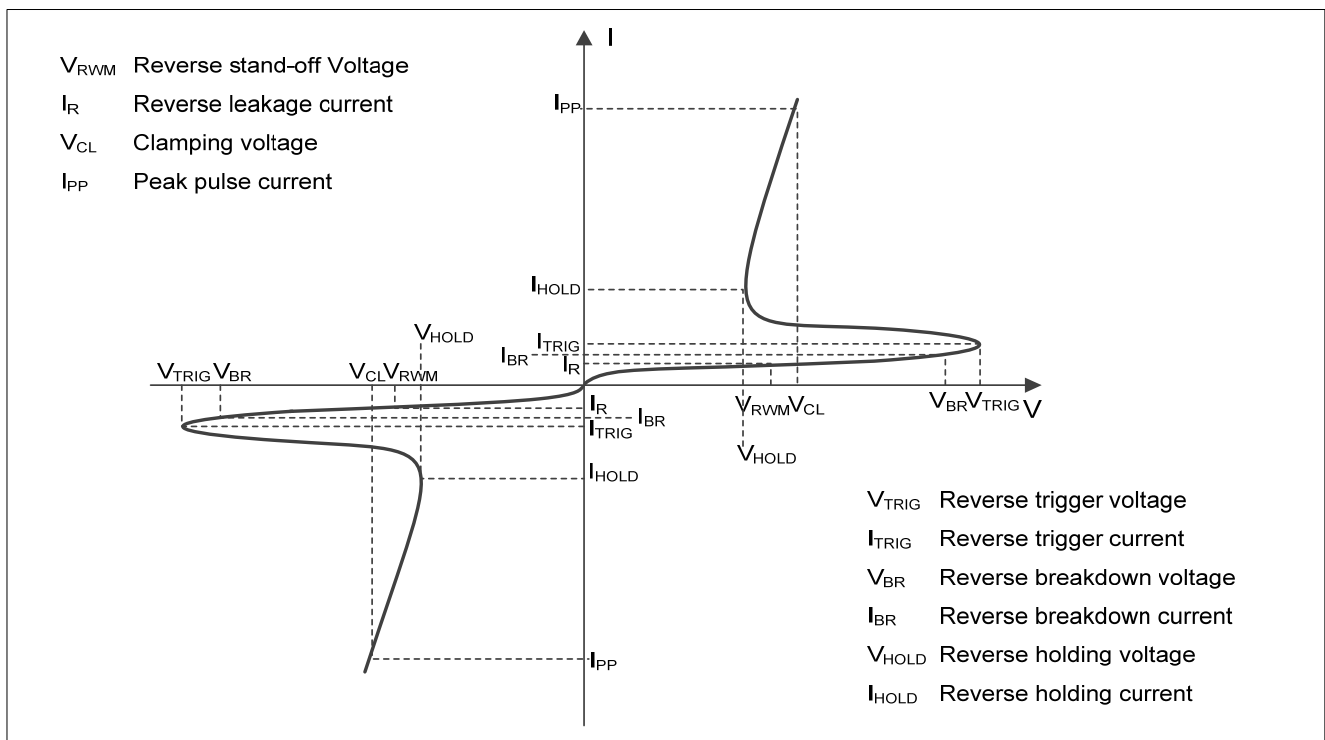
- Cellular handsets
- Tablets
- Laptops
- Other portable devices
- Network communication devices

Mechanical Data

- Package: DFN0603-2L
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



■ Definitions of electrical characteristics





SESDULC3V3LZB

■Maximum Ratings

| PARAMETER | SYMBOL | LIMITS | UNIT |
|---|-----------|----------|-------------|
| Peak pulse power ($t_p = 8/20\mu s$) | P_{pk} | 33 | W |
| Peak pulse current ($t_p = 8/20\mu s$) | I_{PP} | 5.5 | A |
| ESD according to IEC61000-4-2 air discharge | V_{ESD} | ± 30 | kV |
| ESD according to IEC61000-4-2 contact discharge | | ± 30 | |
| Junction temperature | T_J | -40~125 | $^{\circ}C$ |
| Storage temperature | T_{STG} | -55~150 | $^{\circ}C$ |

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|---------------------------------|------------|---------|--------------------------------------|-----|-----|------|
| Reverse maximum working voltage | V_{RWM} | V | | | | 3.3 |
| Reverse leakage current | I_R | μA | $V_{RWM} = 3.3V$ | | | 0.1 |
| Reverse breakdown voltage | V_{BR} | V | $I_{BR} = 1mA$ | 6 | | |
| Reverse holding voltage | V_{HOLD} | V | | 1.5 | | |
| Clamping voltage ¹⁾ | V_{CL} | V | $I_{PP} = 16A, t_p = 0.2/100ns(TLP)$ | | 7.5 | |
| Clamping voltage ¹⁾ | V_{CL} | V | $I_{PP} = 1A, t_p = 8/20\mu s$ | | 3 | 3.5 |
| Clamping voltage ¹⁾ | V_{CL} | V | $I_{PP} = 5.5A, t_p = 8/20\mu s$ | | 5 | 6 |
| Junction capacitance | C_J | pF | $V_R = 0V, f = 1MHz$ | | | 0.22 |

Notes:

TLP parameter: $Z_0 = 50\Omega, t_p = 100ns, t_r = 2ns$, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.

Contact discharge mode, according to IEC61000-4-2.

Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| SESDULC3V3LZB | F1 | Approximate 0.18 | 10000 | 100000 | 400000 | 7" reel |



■ Characteristics (Typical)

Fig.1 8/20 μ s waveform per IEC61000-4-5

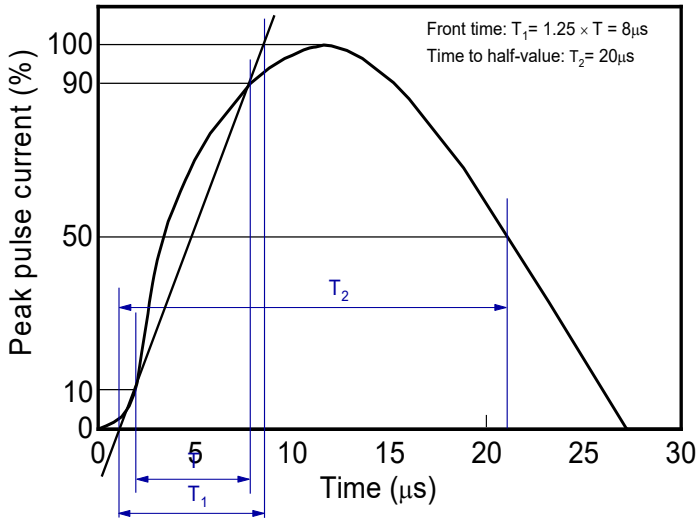


Fig.2 Contact discharge current waveform per IEC61000-4-2

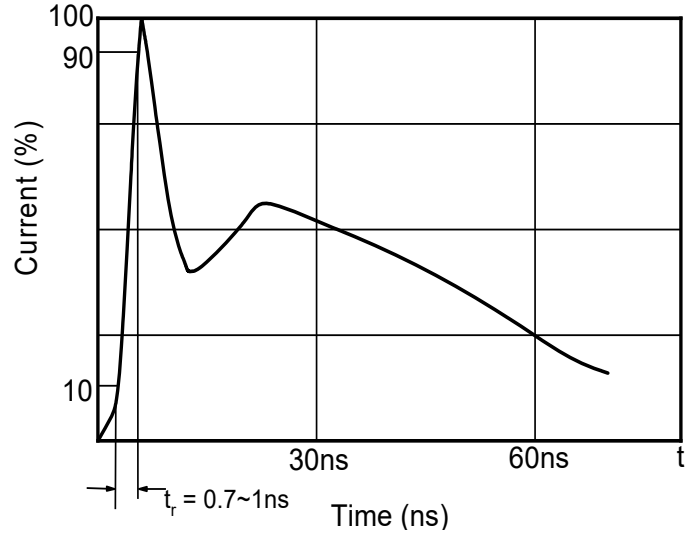


Fig.3 Clamping voltage vs. Peak pulse current

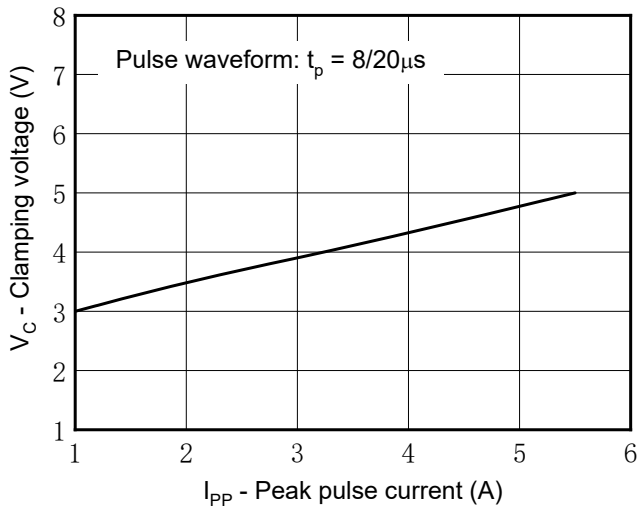


Fig.4 Capacitance vs. Reverse voltage

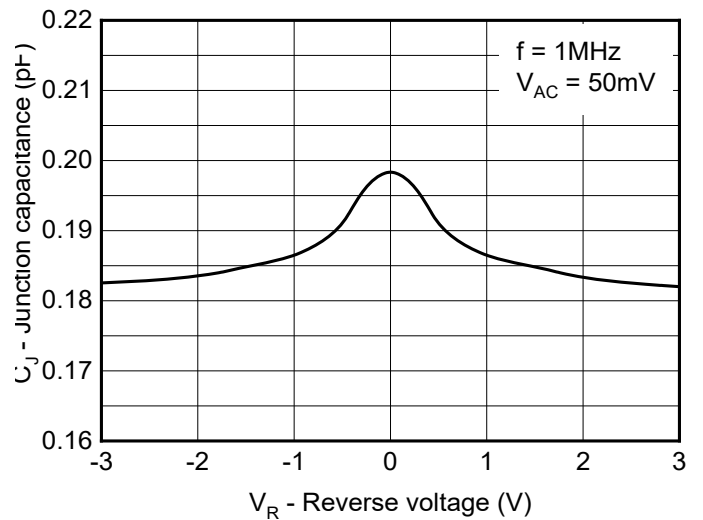


Fig.5 Non-repetitive peak pulse power vs. Pulse time

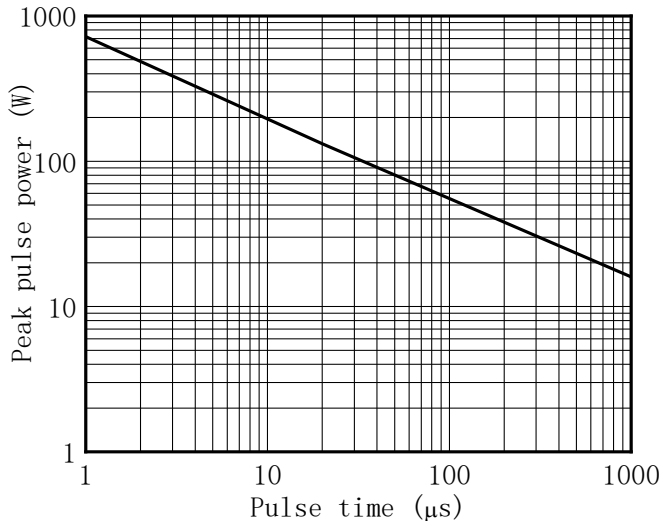


Fig.6 Power derating vs. Ambient temperature

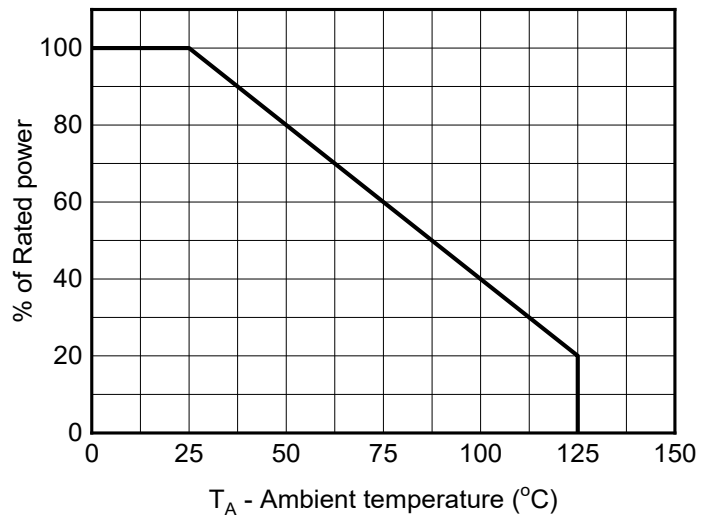
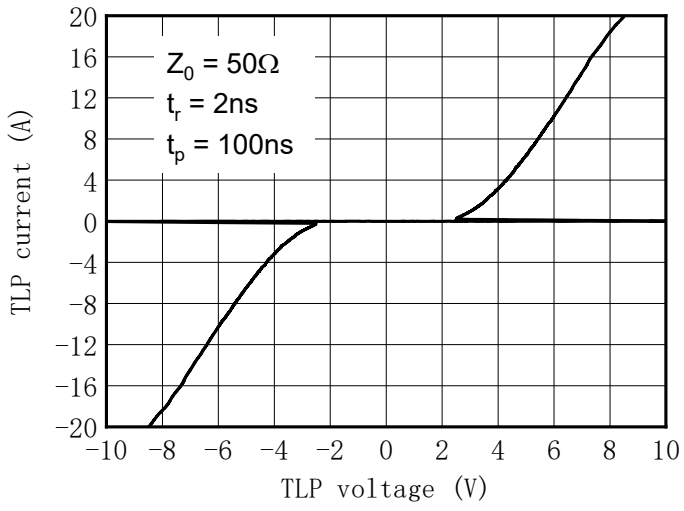




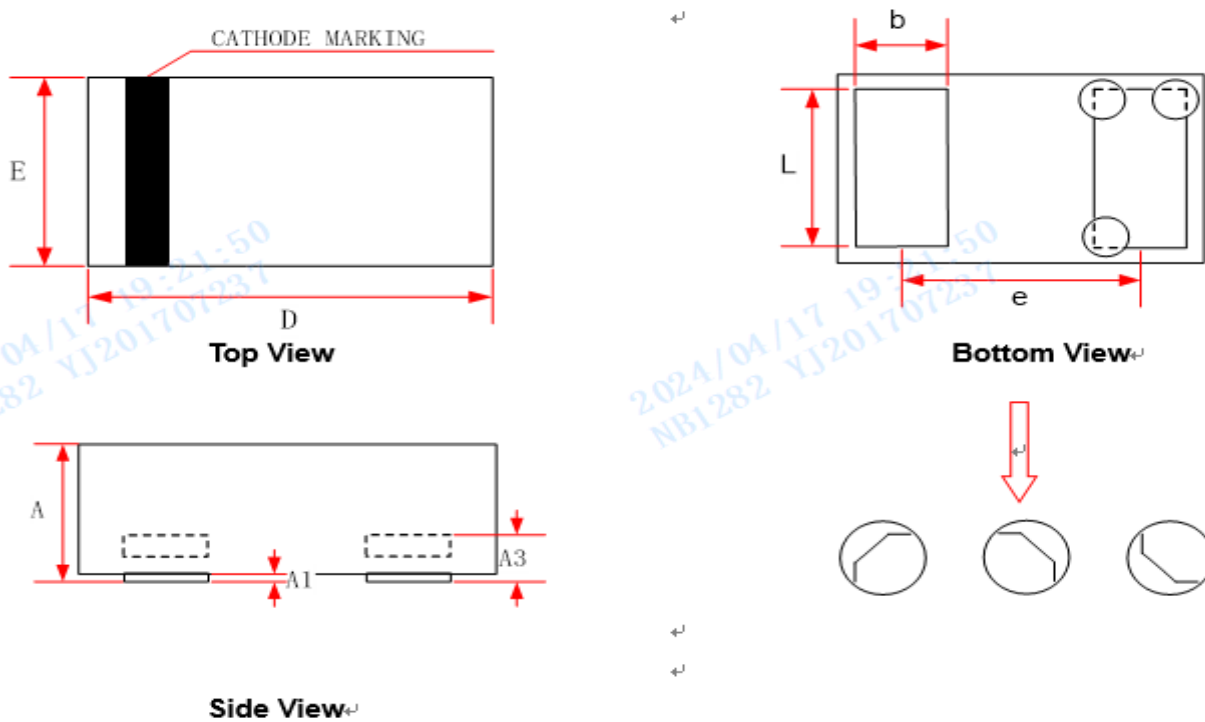
Fig.7 TLP Measurement





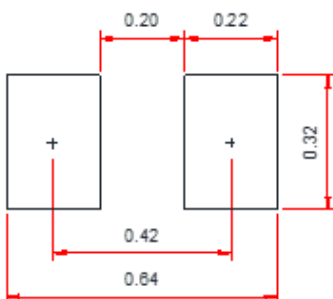
SESDULC3V3LZB

■ Outline Dimensions



| Symbol | Dimensions in Millimeters | | |
|--------|---------------------------|-------|-------|
| | Min. | Typ. | Max. |
| A | 0.230 | 0.300 | 0.350 |
| A1 | 0.000 | - | 0.050 |
| A3 | 0.102REF. | | |
| D | 0.550 | 0.600 | 0.670 |
| E | 0.250 | 0.300 | 0.370 |
| b | 0.100 | 0.170 | 0.250 |
| L | 0.200 | 0.240 | 0.280 |
| e | 0.360 BSC | | |

■ Recommended PCB Layout



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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