



## Transient Voltage Suppressors for ESD Protection

### Features

- ◆ Working voltage : 3.3V
- ◆ Low capacitance: 0.4pF (Typical)
- ◆ Low leakage current: 1.0 $\mu$ A @  $V_{RWM}$
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

### DFN0603



### Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Portable Instrumentation
- ◆ Notebooks, Desktops, and Servers
- ◆ Digital Cameras MDDI Ports

### Functional Diagram



### Mechanical Characteristics

- ◆ DFN0603-2L Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 10,000pcs
- ◆ Reel Size : 7 inch
- ◆ Marking Code: U3

### Absolute Maximum Rating

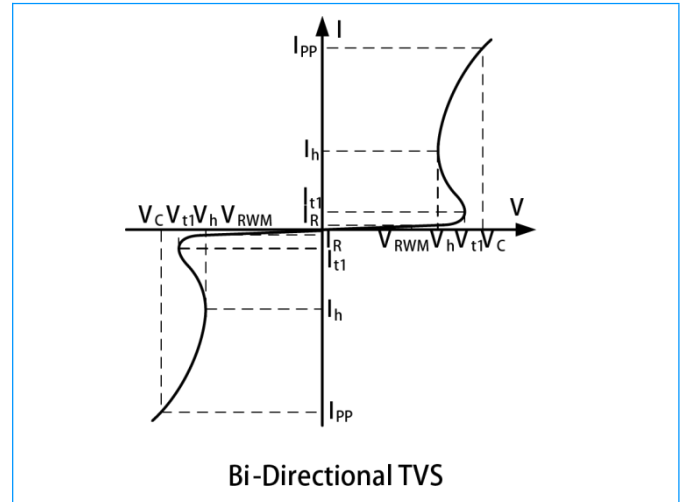
| Symbol    | Parameter                       | Value         | Units        |
|-----------|---------------------------------|---------------|--------------|
| $T_{LST}$ | Lead Soldering Temperature      | 260 (10 sec.) | $^{\circ}$ C |
| $T_{STG}$ | Storage Temperature Range       | -55 to +150   | $^{\circ}$ C |
| $T_{OPT}$ | Operating Temperature Range     | -55 to +125   | $^{\circ}$ C |
| $V_{ESD}$ | ESD per IEC 61000-4-2(Air)      | $\pm 20$      | KV           |
|           | ESD per IEC 61000-4-2 (Contact) | $\pm 15$      |              |

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## SE03N2C01HZ

### I-V Curve Characteristics

| Symbol    | Parameter                                   |
|-----------|---------------------------------------------|
| $I_{PP}$  | Maximum Peak Pulse Current                  |
| $V_C$     | Clamping Voltage @ $I_{PP}$                 |
| $V_{RWM}$ | Working Peak Reverse Voltage                |
| $I_R$     | Maximum Reverse Leakage Current @ $V_{RWM}$ |
| $V_{t1}$  | Trigger Voltage                             |
| $I_{t1}$  | Trigger Current @ $V_{t1}$                  |
| $V_h$     | Holding Voltage                             |
| $I_h$     | Holding Current @ $V_h$                     |



### Electrical Characteristics (@ $T_A=25^\circ\text{C}$ Unless Otherwise Specified )

| Symbol    | Test Condition                               | Minimum | Typical | Maximum | Units         |
|-----------|----------------------------------------------|---------|---------|---------|---------------|
| $V_{RWM}$ | --                                           | --      | --      | 3.3     | V             |
| $I_R$     | $V_{RWM}=3.3\text{V}$ , $T=25^\circ\text{C}$ | --      | --      | 1.0     | $\mu\text{A}$ |
| $V_{BR}$  | $I_T = 1\text{mA}$                           | 4.1     | --      | 7.0     | V             |
| $V_C$     | $I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$   | --      | 9       | --      | V             |
| $V_C$     | $I_{PP}=3\text{A}$ , $t_p=8/20\mu\text{s}$   | --      | 19      | --      | V             |
| $C_J$     | $V_R=0\text{V}$ , $f=1\text{MHz}$            | --      | 0.4     | --      | pF            |

### Characteristic Curves

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

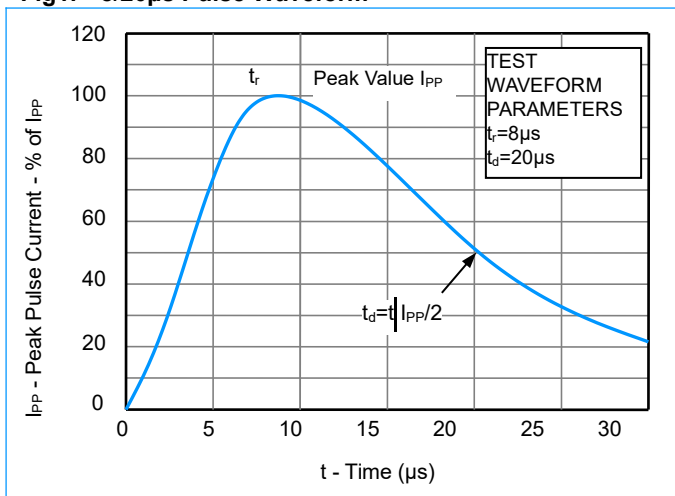
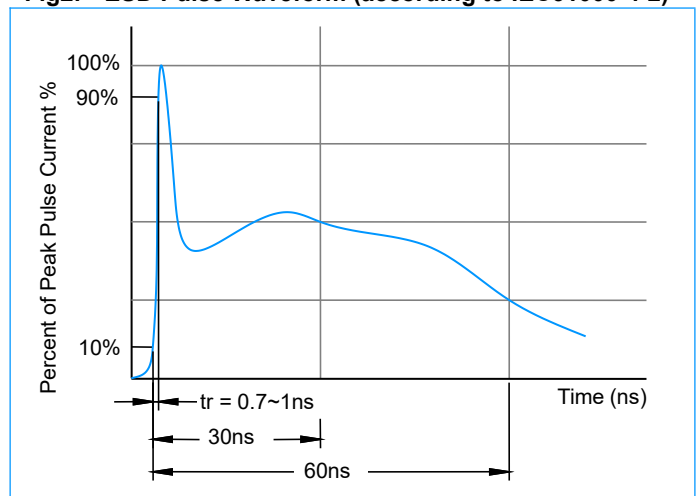


Fig2. ESD Pulse Waveform (according to IEC61000-4-2)



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### Characteristic Curves (Continue)

Fig3. Clamped +8 kV ESD Voltage Waveform

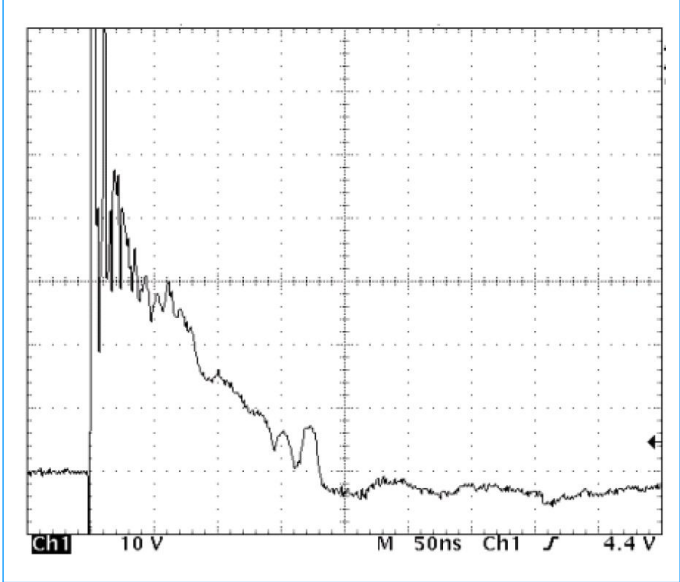
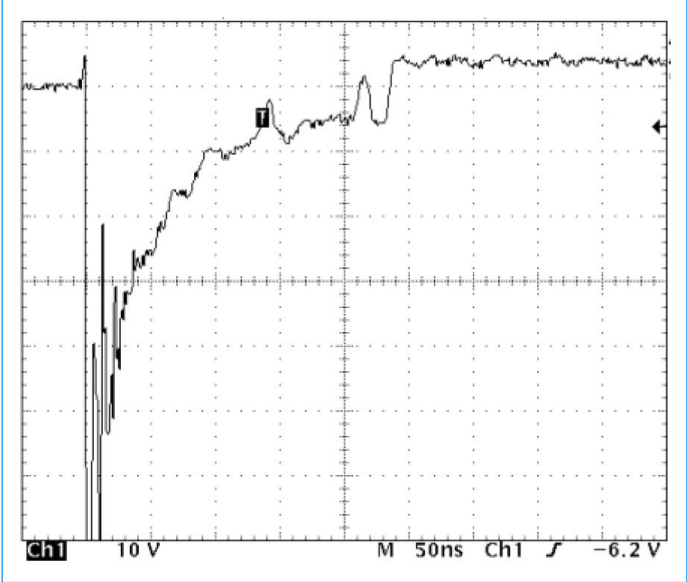
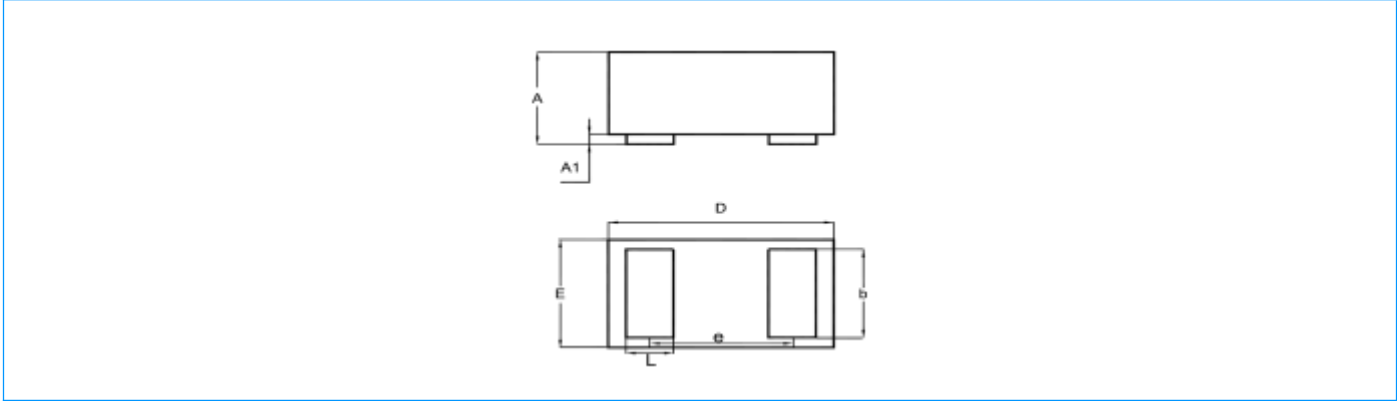


Fig4. Clamped -8 kV ESD Voltage Waveform



### DFN0603-2L Package Outline & Dimensions

Plastic surface mounted package; 2 leads DFN0603

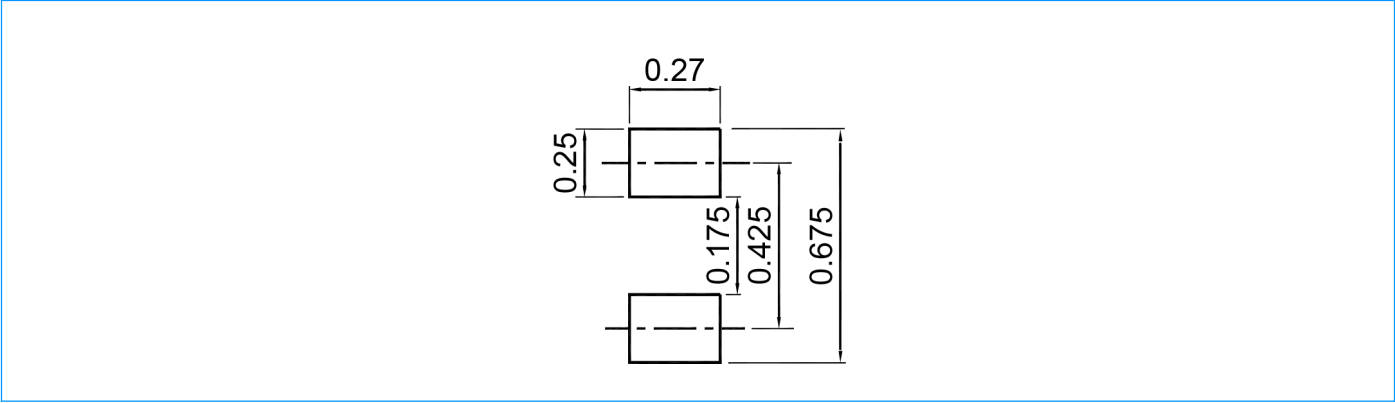


| Unit |      | A    | A1    | b    | D    | E    | e     | L    |
|------|------|------|-------|------|------|------|-------|------|
| mm   | Min. | 0.27 | 0.000 | 0.21 | 0.57 | 0.28 | 0.355 | 0.14 |
|      | Max. | 0.33 | 0.025 | 0.29 | 0.65 | 0.35 |       | 0.22 |

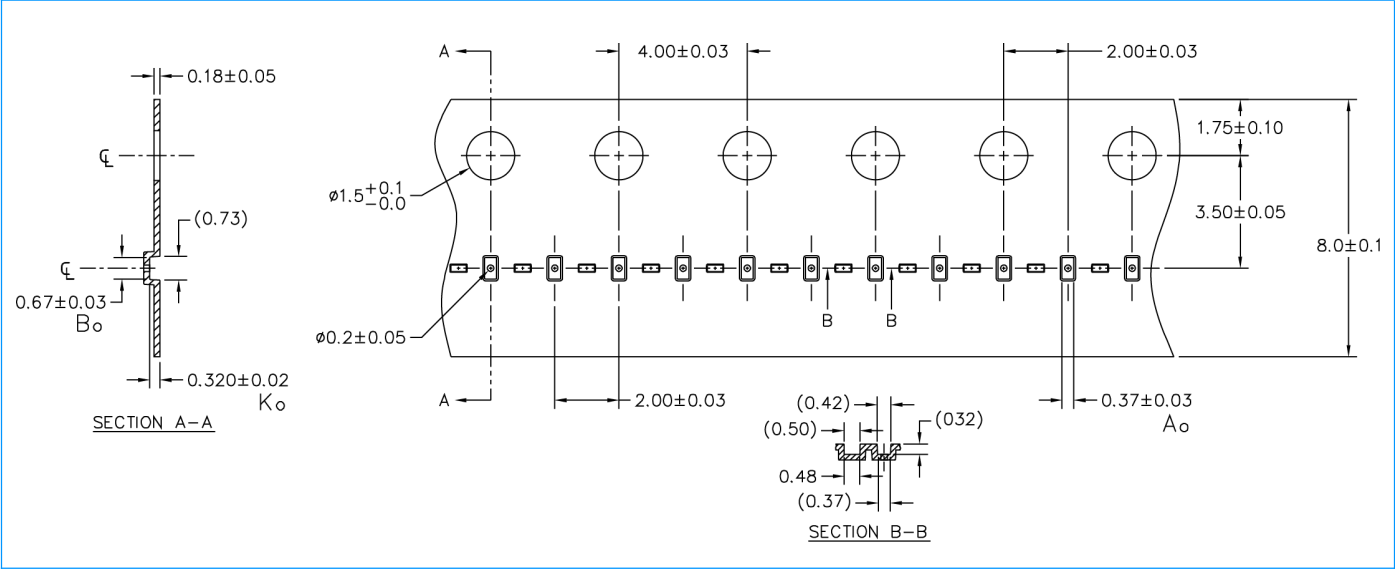
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## SE03N2C01HZ

Recommended Soldering Footprint (Unit: mm)



Tape and Reel Specification (Unit: mm)



| A0            | B0            | K0            |
|---------------|---------------|---------------|
| 0.37 +/- 0.03 | 0.67 +/- 0.03 | 0.32 +/- 0.02 |