



# ESDB15VADB

## Transient Voltage Suppressor

### Descriptions

The ESDB15VADB is a Bi-directional transient voltage suppressor (TVS) to protect sensitive electronic components from electrostatic discharge (ESD). It is particularly well-suited for cellular phones, PMP, MID, PDA, digital cameras and other electronic equipment.

The ESDB15VADB is available in DFN1x0.6-2L package. Standard products are Pb-free and Halogen-free.

### Features

- Small Body Outline Dimensions
- Low reverse stand-off voltage: 15V
- Ultra Low capacitance
- Low leakage current
- Transient protection for each line according to IEC61000-4-2 (ESD):  $\pm 30\text{kV}$  (contact discharge)

### Applications

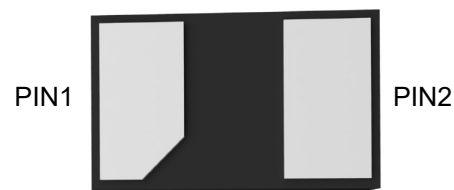
- Display Ports
- MDDI Ports
- Cellular Handsets and Accessories
- Computer and Peripherals

### Marking Code

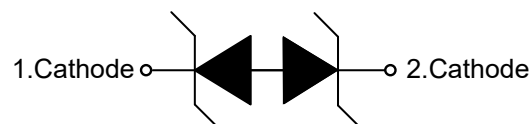


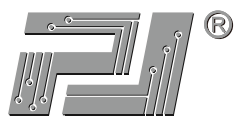
Top View

DFN1x0.6-2L



Bottom View





# ESDB15VADB

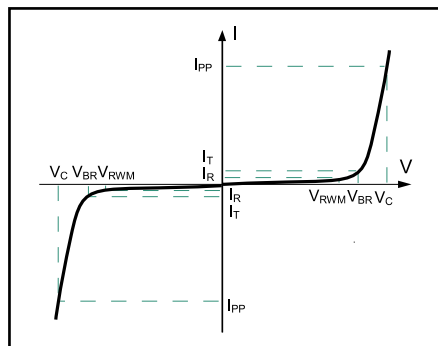
## Transient Voltage Suppressor

### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ )

| Parameter                   |               | Symbols          | Value       | Unit               |
|-----------------------------|---------------|------------------|-------------|--------------------|
| IEC61000-4-2 ESD Voltage    | Air Model     | $V_{\text{ESD}}$ | $\pm 30$    | KV                 |
|                             | Contact Model |                  | $\pm 30$    |                    |
| Junction Temperature        |               | $T_J$            | 125         | $^{\circ}\text{C}$ |
| Operating Temperature Range |               | $T_{\text{OPR}}$ | -40 to +125 | $^{\circ}\text{C}$ |
| Storage Temperature Range   |               | $T_{\text{STG}}$ | -55 to +150 | $^{\circ}\text{C}$ |

### Electrical Parameter

| Symbol           | Parameter                                  |
|------------------|--------------------------------------------|
| $V_C$            | Clamping Voltage @ $I_{\text{PP}}$         |
| $I_{\text{PP}}$  | Peak Pulse Current                         |
| $V_{\text{BR}}$  | Breakdown Voltage @ $I_T$                  |
| $I_T$            | Test Current                               |
| $I_R$            | Reverse Leakage Current @ $V_{\text{RWM}}$ |
| $V_{\text{RWM}}$ | Reverse Standoff Voltage                   |



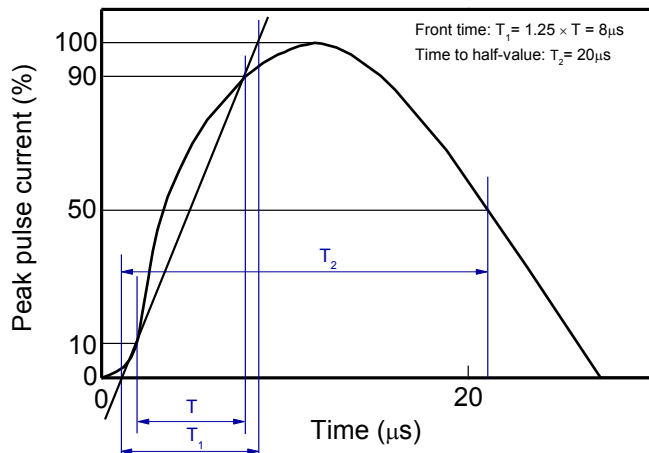
V-I characteristics for a Bi-directional TVS

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

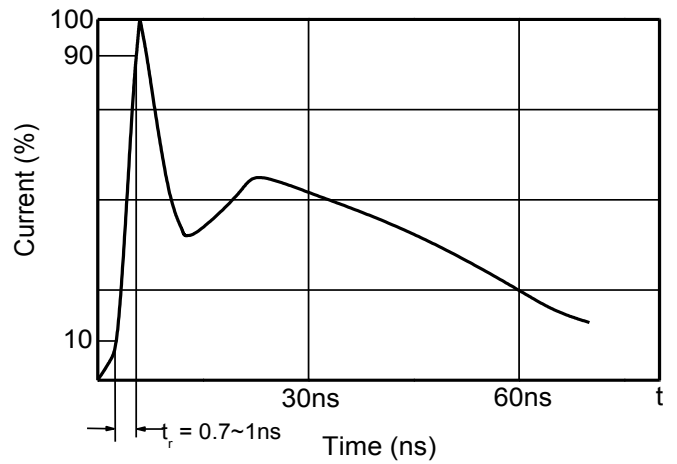
| Parameter                                                                                                                                      | Symbols            | Min.     | Max.     | Unit          |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|----------|---------------|
| Reverse stand-off voltage                                                                                                                      | $V_{\text{RWM}}$   | --       | 15       | V             |
| Forward Voltage<br>at $I_F = 10 \text{ mA}$                                                                                                    | $V_F$              | --       | 1.1      | V             |
| Reverse Leakage Current<br>at $V_{\text{RWM}} = \pm 15 \text{ V}$                                                                              | $I_R$              | --       | 0.1      | $\mu\text{A}$ |
| Breakdown Voltage<br>at $I_T = 1 \text{ mA}$                                                                                                   | $V_{\text{R(BR)}}$ | 16       | 19       | V             |
| Peak Pulse Current<br>$t_p = 8/20 \mu\text{s}$                                                                                                 | $I_{\text{PP}}$    | --       | 8        | A             |
| Clamping Voltage<br>at $I_{\text{PP}} = 1 \text{ A}$ , $t_p = 8/20 \mu\text{s}$<br>at $I_{\text{PP}} = 8 \text{ A}$ , $t_p = 8/20 \mu\text{s}$ | $V_C$              | --<br>-- | 22<br>35 | V             |
| Junction Capacitance<br>at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$                                                                           | $C_J$              | --       | 45       | pF            |



### Typical Characteristic Curves



8/20 $\mu\text{s}$  waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2



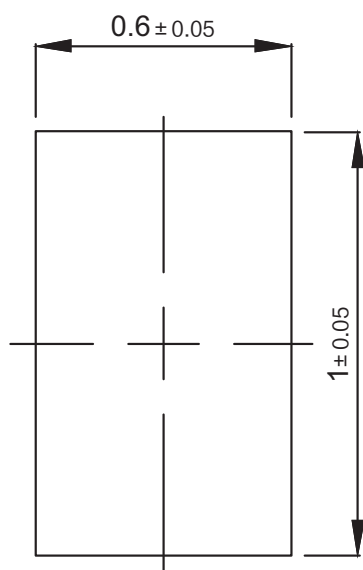
# ESDB15VADB

## Transient Voltage Suppressor

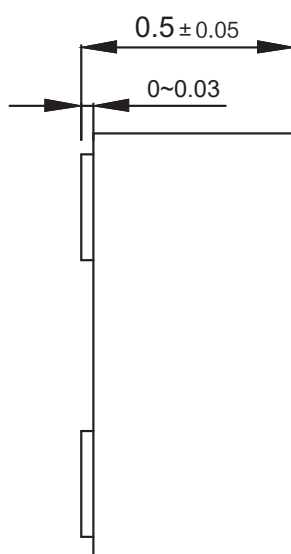
### Package Outline

DFN1x0.6-2L-0011

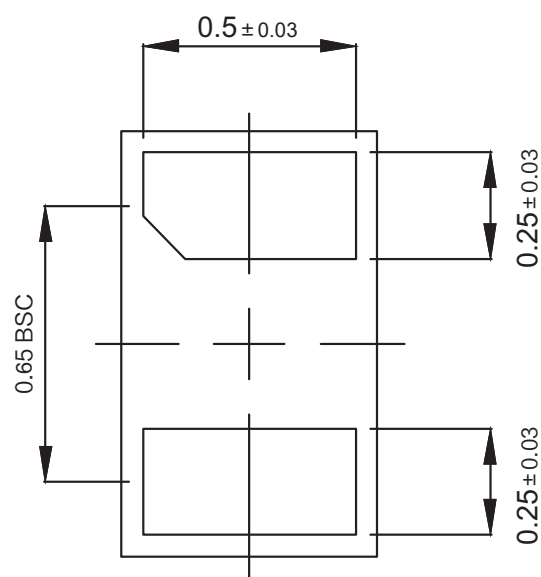
Dimensions in mm



TOP VIEW



SIDE VIEW



BOTTOM VIEW

### Ordering Information

| Device     | Package     | Shipping               |
|------------|-------------|------------------------|
| ESDB15VADB | DFN1x0.6-2L | 10,000PCS/Reel&7inches |