



ESDB3V3BDB

Transient Voltage Suppressor

Descriptions

The ESDB3V3BDB 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 ESDB3V3BDB is available in DFN1x0.6-2L package. Standard products are Pb-free and Halogen-free.

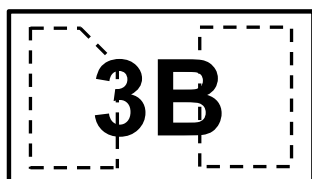
Features

- Small Body Outline Dimensions
- Low reverse stand-off voltage: 3.3V
- Ultra Low capacitance
- Low leakage current
- Transient protection for each line according to IEC61000-4-2 (ESD): $\pm 30\text{kV}$ (contact discharge)

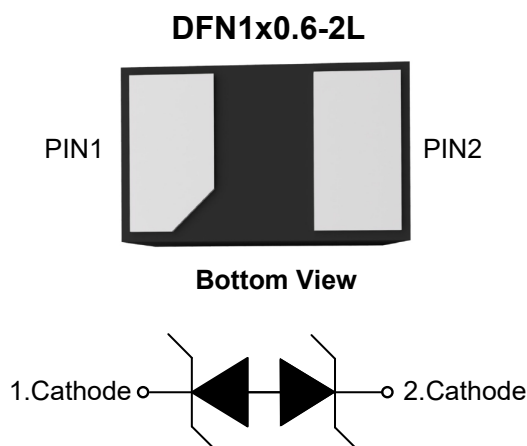
Applications

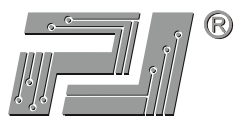
- Display Ports
- MDDI Ports
- Cellular Handsets and Accessories
- Computer and Peripherals

Marking Code



Top View





ESDB3V3BDB

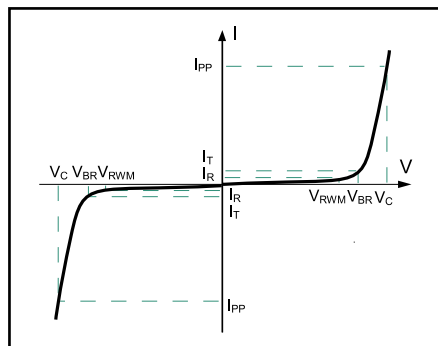
Transient Voltage Suppressor

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

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

Electrical Parameter

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



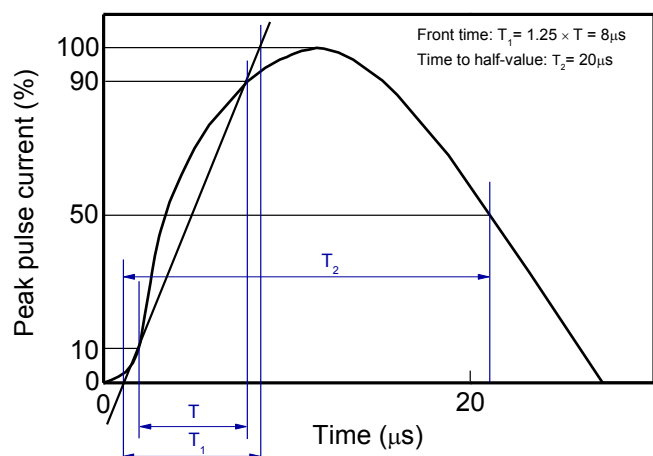
V-I characteristics for a Bi-directional TVS

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

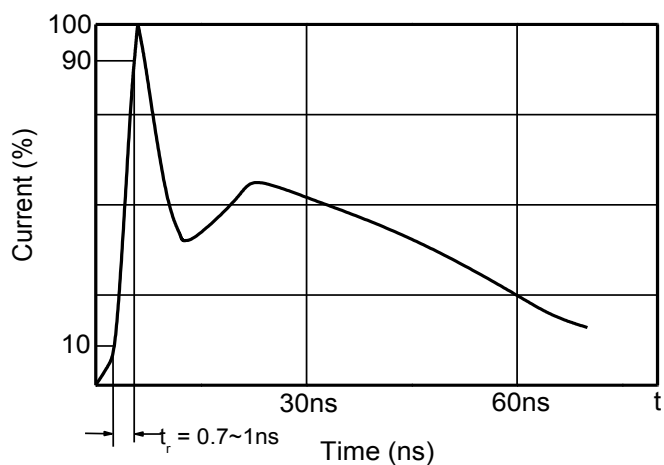
Parameter	Symbols	Min.	Max.	Unit
Reverse stand-off voltage	V_{RWM}	--	3.3	V
Reverse Leakage Current at $V_{\text{RWM}} = \pm 3.3 \text{ V}$	I_R	--	0.1	μA
Breakdown Voltage at $I_T = 1 \text{ mA}$	$V_{\text{R(BR)}}$	3.5	5.0	V
Peak Pulse Current $t_p = 8/20 \mu\text{s}$	I_{PP}	--	10	A
Clamping Voltage at $I_{\text{PP}} = 1 \text{ A}$, $t_p = 8/20 \mu\text{s}$ at $I_{\text{PP}} = 10 \text{ A}$, $t_p = 8/20 \mu\text{s}$	V_C	-- --	6.5 10	V
Junction Capacitance at $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_J	--	30	pF



Typical Characteristic Curves



8/20 μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2



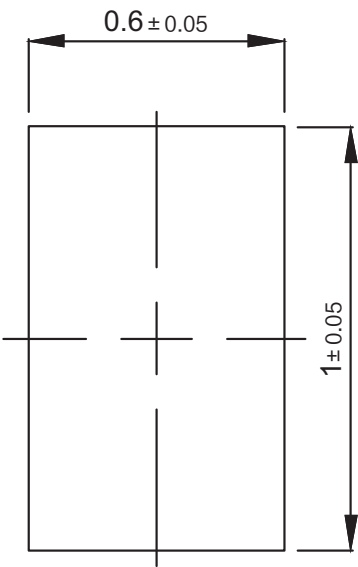
ESDB3V3BDB

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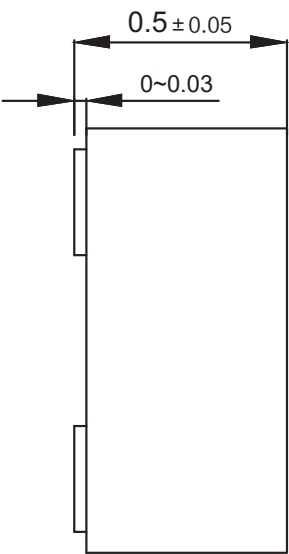
Package Outline

DFN1x0.6-2L-0011

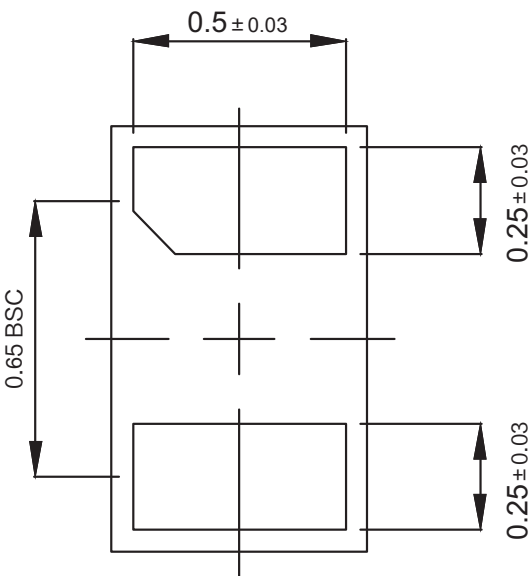
Dimensions in mm



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Ordering Information

Device	Package	Shipping
ESDB3V3BDB	DFN1x0.6-2L	10,000PCS/Reel&7inches