KODENSHI AUK

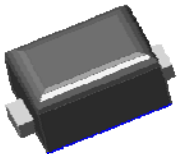
NDB171

Transient Voltage Suppressor Diode

Bi-directional ESD Protection TVS Diode

General Description

The NDB171 device is help protect sensitive electronic equipment against electrostatic discharge (ESD). The NDB171 device is safely dissipate ESD strikes, exceeding the IEC 61000-4-2 International Standard, Level 4 (±8kV contact discharge and ±15kV air discharge).



SOD-923

Features and Benefits

- Low capacitance and fast response time
- Bidirectional type pin configuration structure
- Compact SMD package saves board space and facilitates layout in space-critical applications
- Full lead(Pb)-free device and RoHS compliant
- Available in “Green” device

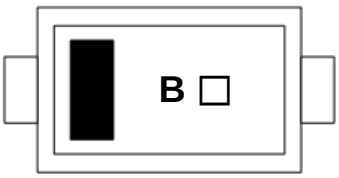
Applications

- ESD Protection of PC ports, including USB ports, Cell phone handsets and accessories, etc.

Ordering Information

Part Number	Marking Code	Package	Packaging
NDB171	B □	SOD-923	Tape & Reel

Marking Information

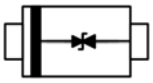


B = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

Absolute Maximum Ratings (T_{amb}=25℃, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
ESD withstand voltage per IEC 61000-4-2 standard	$V_{ESD(Air)}$	±15	kV
	$V_{ESD(Contact)}$	±8	
Peak pulse power (tp = 8/20us)	P_{PK}	100	W
Power dissipation [1)]	P_D	100	mW
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55 ~ +150	°C

[1)] Device mounted on FR-4 board with recommended pad layout.

Thermal Characteristics (T_{amb}=25℃, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Thermal resistance, junction to ambient [1)]	$R_{th(j-a)}$	1250	°C/W

[1)] Device mounted on FR-4 board with recommended pad layout.

Electrical Characteristics (T_{amb}=25℃, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Breakdown voltage	V_{BR}	I_R=1mA	5.78	-	7.82	V
Reverse current	I_R	V_R=3.5V	-	-	0.5	uA
Total capacitance	C_T	V_R=0V, f=1MHz	-	25	-	pF

Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

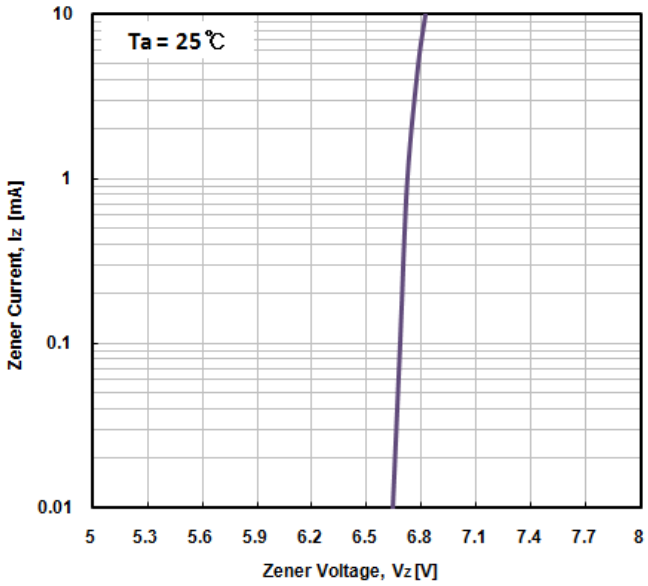


Fig. 2) Power Dissipation vs. Ambient Temperature

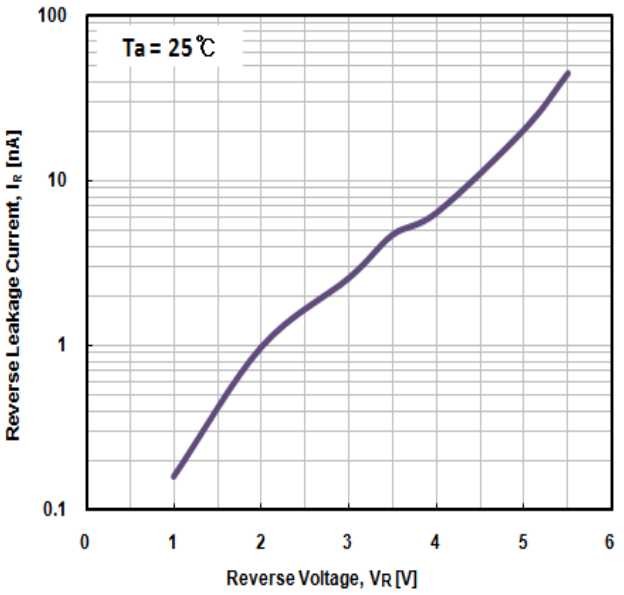


Fig. 3) Typical Capacitance Characteristics

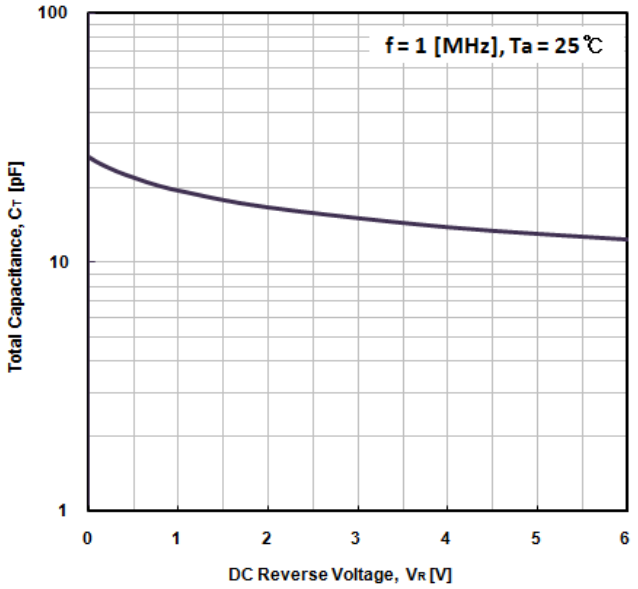
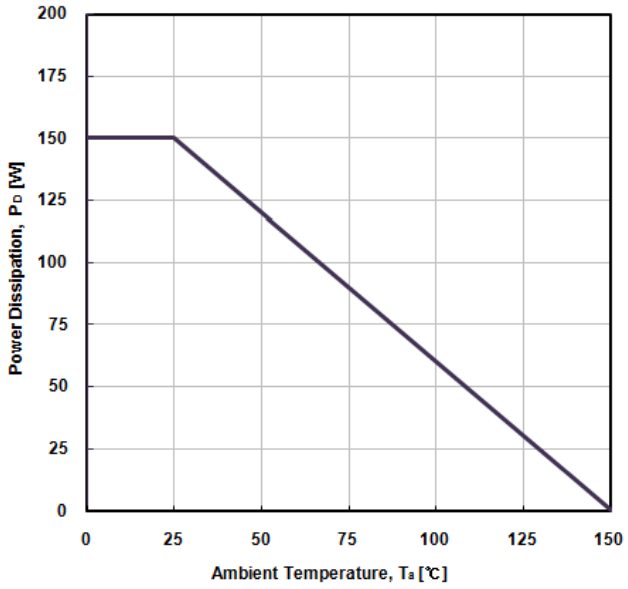
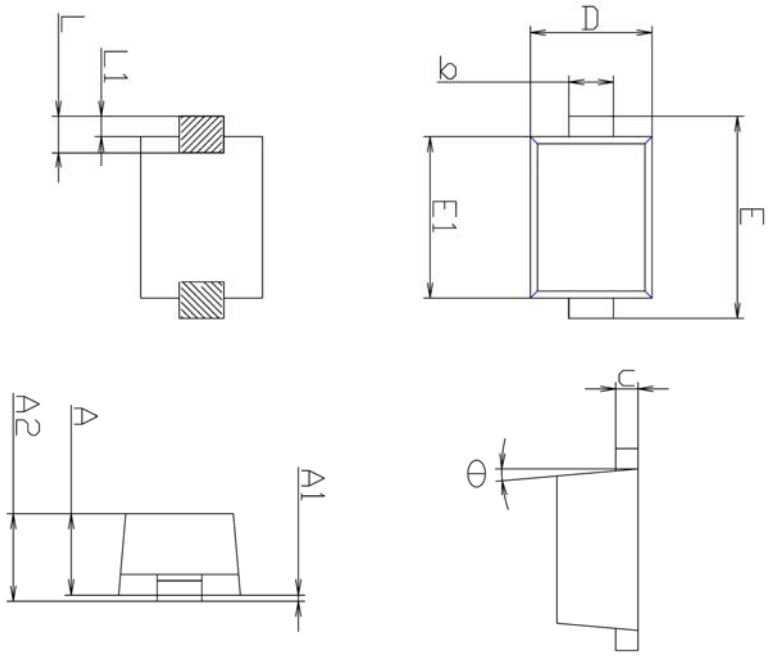


Fig. 4) Power Dissipation vs. Ambient Temperature

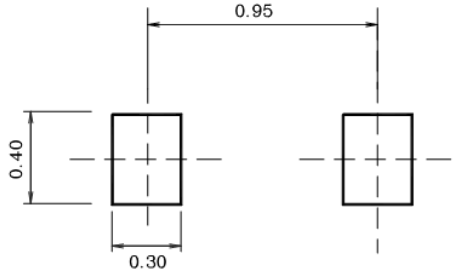


Package Outline Dimensions (Unit : mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.39	0.40	0.41	
A1	-	-	0.05	
A2	-	-	0.43	
b	0.17	0.22	0.27	
c	0.08	0.11	0.14	
D	0.55	0.60	0.65	
E	0.90	1.00	1.10	
E1	0.75	0.80	0.85	
L	0.10	0.18	0.26	
L1	0.05	0.10	0.15	
θ	5° REF			

※ Recommend PCB solder land (Unit : mm)



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