# HESDNC15VB1AF-B
ESD PROTECTION DIODE

## Discription

The HESDNC15VB1AF-B is designed to protect voltage sensitive components from damage or latch-up due to ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed ESD for board level. Because of its small size and bi-directional design, it is ideal for use in cellular phones, MP3 players,and portable applications that require audio line protection.


DFN1006-2L

## Features

★ IEC 61000-4-2 Level 4 ESD Protection
- ± 30kV Contact Discharge
- ± 30kV Air Discharge

★ 250W Peak pulse Power (8/20us)
★ Low clamping voltage
★ Working voltage: 15V
★ Low leakage current
★ RoHS compliant
★ Protecting one bi-directional lines
★ Junction capacitance:25pF Typ.


Circuit Diagram

## Applications

★ Cellular handsets and accessories
★ Battery Protection
★ Notebooks & Handhelds
★ Mobile Phones
★ MP3 Players
★ Peripherals

## Ordering Information

| Product ID | Pack | Qty(PCS) |
|---|---|---|
| HESDNC15VB1AF-B | DFN1006-2L | 10000 |

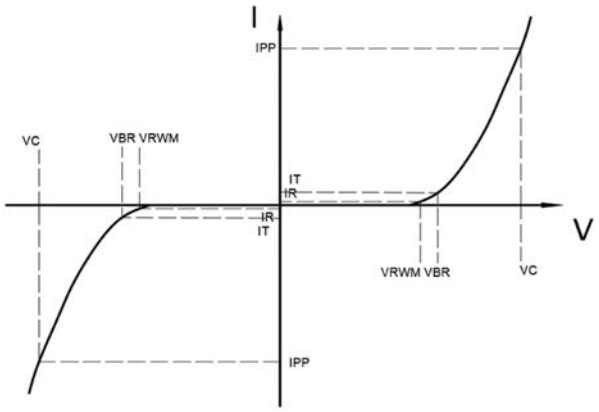
## Absolute Ratings(Tamb = 25°C)

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $P_{PP}$ | Peak Pulse Power ($t_p$ = 8/20 μ s) | 288 | W |
| $T_L$ | Maximum lead temperature for soldering during 10s | 260 | °C |
| $T_{stg}$ | Storage Temperature Range | -55 to +150 | °C |
| $T_{op}$ | Operating Temperature Range | -40 to +125 | °C |
| $T_j$ | Maximum junction temperature | 150 | °C |
| | IEC61000-4-2 (ESD) air discharge<br>contact discharge | ±30<br>±30 | KV |
| $I_{PP}$ | Peak pulse current (tp=8/20us)@25°C | 9 | A |

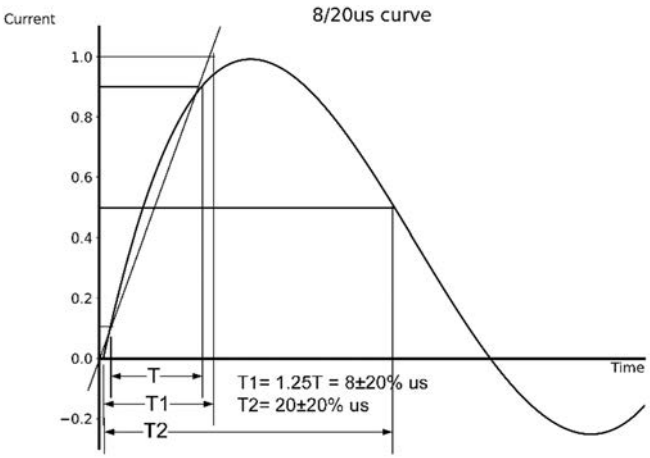
## Electrical Characteristics

| Symbol | Parameter | Test Condition | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| $V_{RWM}$ | Reverse Working Voltage | | | | 15.0 | V |
| $V_{BR}$ | Reverse Breakdown Voltage | $I_T$ = 1mA | 16.5 | | | V |
| $I_R$ | Reverse Leakage Current | $V_{RWM}$ =15.0V | | | 1.0 | uA |
| $V_C$ | Clamping Voltage | $I_{PP}$ = 1A, $t_p$ = 8/20μs | | 19.0 | 22.0 | V |
| | | $I_{PP}$ = 9A, $t_p$ = 8/20μs | | 28.0 | 28.0 | V |
| $C_J$ | Junction Capacitance | $V_R$ = 0V, f = 1MHz | | 25 | | pF |

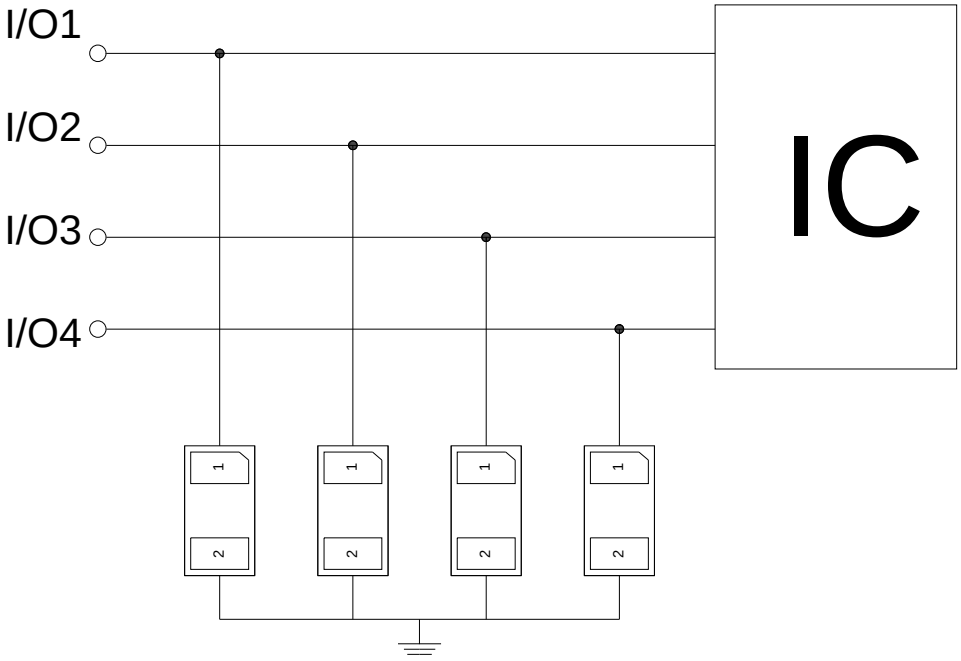
| Symbol | Parameters |
|---|---|
| $V_{RWM}$ | Peak Reverse Working Voltage |
| $I_R$ | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$ | Breakdown Voltage @ $I_T$ |
| $I_T$ | Test Current |
| $I_{PP}$ | Maximum Reverse Peak Pulse Current |
| $V_C$ | Clamping Voltage @ $I_{PP}$ |



## Typical Characteristics

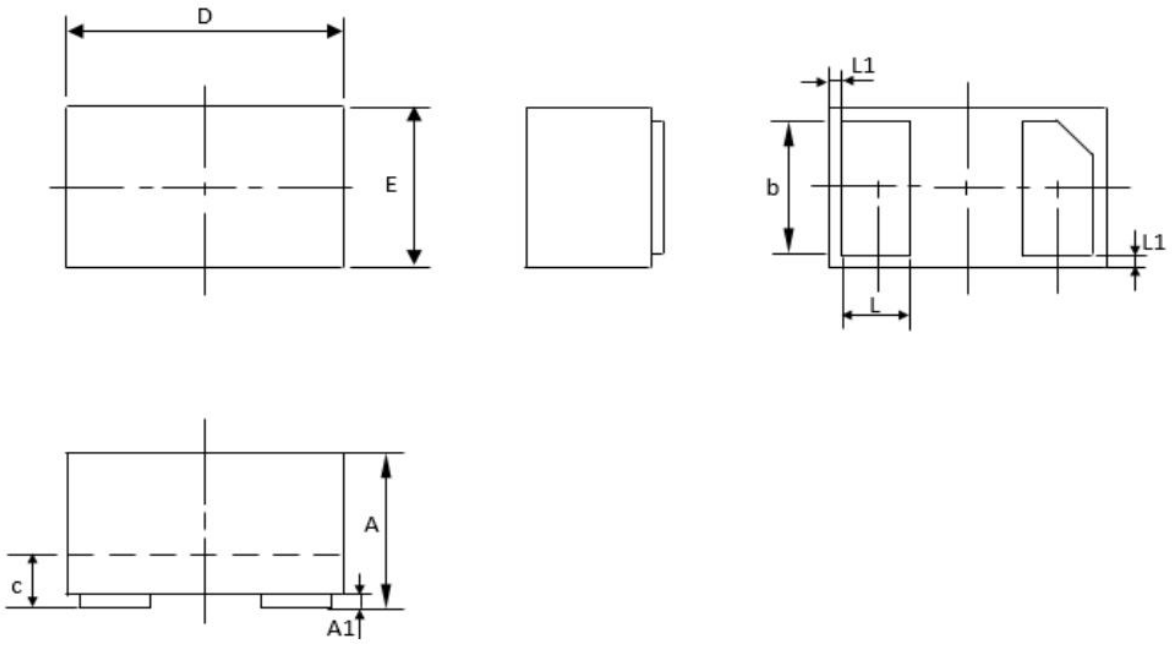



## Typical Application




Typical Interface Application

## Outline And Dimensions




| DFN1006-2L | | | |
|---|---|---|---|
| Dim | Min | Typ. | Max |
| A | 0.46 | 0.48 | 0.50 |
| A1 | 0 | 0.02 | 0.05 |
| b | 0.45 | 0.5 | 0.55 |
| c | 0.1 | 0.12 | 0.14 |
| D | 0.95 | 1.00 | 1.05 |
| E | 0.55 | 0.60 | 0.65 |
| L | 0.20 | 0.25 | 0.30 |
| L1 | 0.035 | 0.05 | 0.065 |
| h | 0.07 | 0.12 | 0.17 |
| All Dimensions in mm | | | |

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