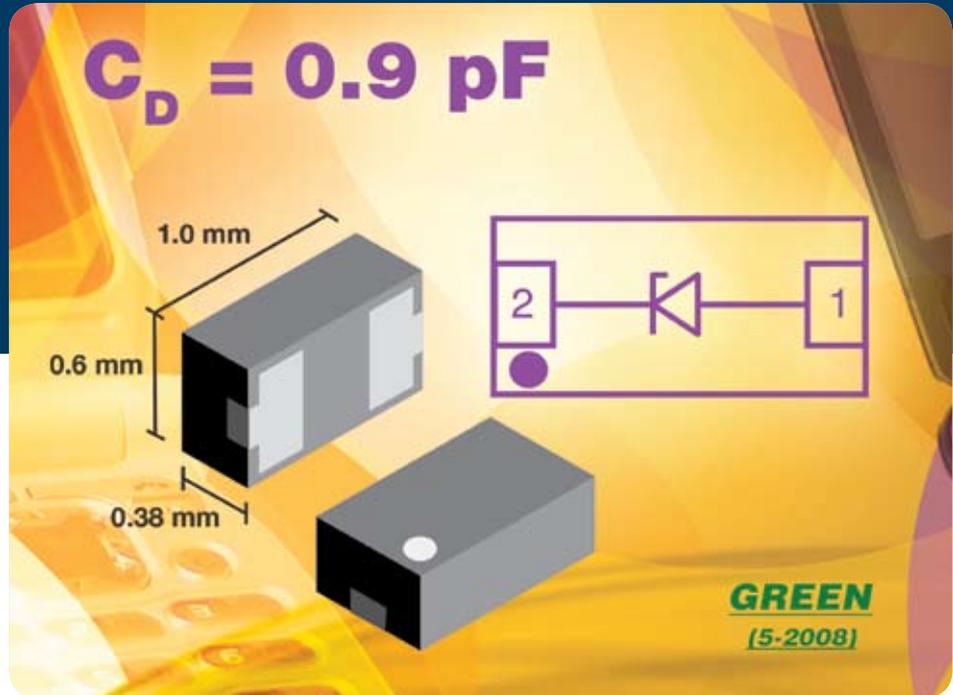




# LOW-CAPACITANCE, SINGLE-LINE ESD PROTECTION DIODE

VBUS051BD-HD1



## Low-Capacitance, Single-Line ESD Protection Diode in Ultra-Compact LLP1006-2L Leadless Package

### FEATURES:

- Ultra-compact LLP1006-2L leadless package
- Low package height of  $< 0.4 \text{ mm}$
- Low load capacitance of  $C_D = 0.9 \text{ pF}$
- Low leakage current of  $< 0.1 \text{ }\mu\text{A}$
- ESD immunity  $> \pm 15 \text{ kV}$
- High surge current according to IEC 61999-4-5,  $I_{PP} > 3 \text{ A}$
- Component in accordance to RoHS
- Environmentally friendly “green” molding compound
- Pin plating NiPdAu (e4) for no whisker growth

### KEY APPLICATIONS

- Mobile communication (mobile phones)
- Mobile consumer (MP3)
- HDMI applications
- Mobile computing

Datasheet is available on our web site at [www.vishay.com](http://www.vishay.com)  
<http://www.vishay.com/doc?81785>

## Low Capacitance, Single-Line ESD-Protection Diode

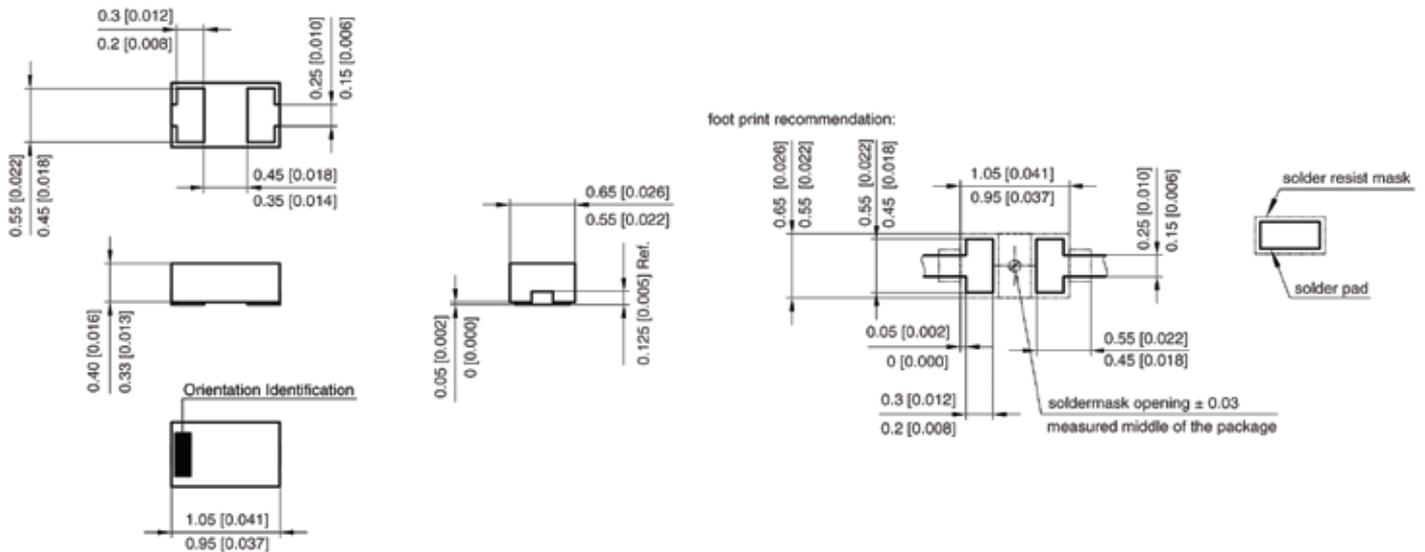
### Electrical Characteristics

Ratings at 25 °C, ambient temperature unless otherwise specified

**VBUS051BD-HD1**

| Parameter                      | Test conditions/remarks   | Symbol    | Min. | Typ.   | Max. | Unit          |
|--------------------------------|---|-----------|------|--------|------|---------------|
| Protection paths               | Number of line which can be protected                             | N lines   |      |        | 1    | lines         |
| Reverse working voltage        | at $I_R = 0.1 \mu\text{A}$ ;<br>pin 2 to pin 1                    | $V_{RWM}$ | 5    |        |      | V             |
| Max. reverse current           | at $V_R = V_{RWM} = 5 \text{ V}$ ;<br>pin 2 to pin 1              | $I_R$     |      | < 0.01 | 0.1  | $\mu\text{A}$ |
| Min. reverse breakdown voltage | at $I_R = 1 \text{ mA}$<br>pin 2 to pin 1                         | $V_{BR}$  | 6.9  | 7.9    | 8.7  | V             |
| Max. clamping voltage          | at $I_{PP} = 3 \text{ A}$ ; acc. IEC 61000-4-5;<br>pin 2 to pin 1 | $V_C$     |      |        | 16   | V             |
| Max. forward clamping voltage  | at $I_F = 3 \text{ A}$ ; acc. IEC 61000-4-5;<br>pin 1 to pin 2    | $V_F$     |      | 1.9    | 2.5  | V             |
| Line capacitance               | at $V_R = 0 \text{ V}$ ; $f = 1 \text{ MHz}$ ;<br>pin 2 to pin 1  | $C_D$     |      | 0.9    | 1.3  | pF            |

### Package Dimensions in millimeters (inches): LLP1006-2L



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