



Author: Roland Reuschle
Tel: +49 7131 67-2634
E-mail: roland.reuschle@vishay.com

New VBUS05L1-DD1-G-08 Bidirectional Symmetrical (BiSy) Single-Line ESD Protection Diode

The News:

Vishay's New Bidirectional Symmetrical Single-Line ESD Protection Diode Offers Extremely Low Capacitance of 0.3 pF in Ultra-Compact LLP1006 Package

Vishay Intertechnology, Inc. (NYSE: VSH) announces a new bidirectional symmetrical (BiSy) single-line ESD protection diode in the LLP1006 package. The compact VBUS05L1-DD1-G-08 provides a very low capacitance of 0.3 pF for the protection of antennas, USB 3.0, and HDMI ports from transient voltage signals in portable electronics.

Product Benefits:

- Provides a very low capacitance of 0.3 pF
- Ultra-compact LLP1006 package
 - 0.6-mm by 1.0-mm footprint with a very low package height of < 0.4 mm
- Working voltage of 5.5 V
- Low leakage current of < 0.1 μ A
- Provides transient protection for one data line as per IEC 61000-4-2 at \pm 9 kV (air and contact discharge)
- Compliant with RoHS 2002/95/EC and WEEE 2002/96/EC
- Soldering can be checked by standard vision, eliminating the need for X-ray inspection



Key Specifications:

- Capacitance of 0.3 pF
- Working voltage of 5.5 V
- Leakage current of < 0.1 μ A
- Reverse breakthrough voltage of typical 8.4 V at 1 mA
- Maximum clamping voltage of 14 V at 1 A



Market Applications:

ESD protection of antennas, USB 3.0, and HDMI ports in portable electronics including gaming systems, digital cameras, MP3 players, and mobile phones

The Perspective:

Vishay's new VBUS05L1-DD1-G-08 protection diode offers an ultra-low capacitance and compact LLP1006 package to minimize the board space required for ESD protection in portable electronics. At the working voltage of 5.5 V, the diode offers a high isolation to ground characterized by a low leakage current of $< 0.1 \mu\text{A}$. Any transient voltage signal exceeding the reverse breakthrough voltage of typical 8.4 V at 1 mA will be "clamped" or "short" to ground. Due to its short leads and small package size, the VBUS05L1-DD1-G-08's line inductance is very low, allowing fast transients such as an ESD strike to be clamped with minimal over-or undershoots.

Availability: Samples and production quantities of the new VBUS05L1-DD1-G-08 are available now, with lead times of eight to ten weeks for large orders.

Contact Information:

The Americas

Vishay Semiconductors
100 Motor Parkway, Suite 135
Hauppauge, NY 11788 USA
Phone : 631 300 3816
Fax : 631 300 3843
Diodes-Americas@vishay.com

Europe

Vishay Semiconductors
Theresienstrasse 2
D-74072 Heilbronn, Germany
Phone : +49 7131 67 2634
Fax : +49 7131 67 2938
Diodes-Europe@vishay.com

Asia/Pacific

Vishay Semiconductors
37A Tampines Street 92 #07-00
Singapore 528877
Phone : +65 6780 7858
Fax : +65 6788 3383
Diodes-Asia@vishay.com