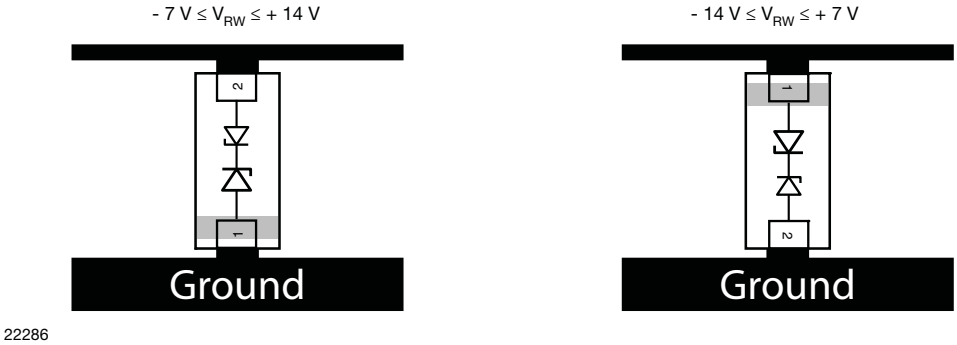
CUT THE SPIKES

The VCUT0714Ax is a bidirectional but asymmetrical (BiAs) ESD protection device which clamps positive and negative overvoltage transients to ground. Connected between the signal or data line and the ground the VCUT0714Ax offers a high isolation (low leakage current, small capacitance) within the specified working range of -7 V to +14 V or -14 V and +7 V. Due to the short leads and small package size of the tiny LLP1006 package the line inductance is very low, so that fast transients like an ESD strike can be clamped with minimal over- or undershoots.



22286

ELECTRICAL CHARACTERISTICS (pin 2 to pin 1)
(T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	$N_{channel}$	-	-	1	lines
Reverse stand-off voltage	Max. reverse working voltage	V_{RWM}	-	-	14	V
Reverse voltage	At I_R = 0.1 µA	V_R	14	-	-	V
Reverse current	At V_{RWM} = 14 V	I_R	-	-	0.1	µA
Reverse breakdown voltage	At I_R = 1 mA	V_{BR}	14.5	-	-	V
Reverse clamping voltage	At I_{PP} = 1 A	V_C	-	-	27	V
	At I_{PP} = I_{PPM} = 2 A	V_C	-	-	30	V
Capacitance	At V_R = 0 V; f = 1 MHz	C_D	-	8	8.5	pF
	At V_R = 7 V; f = 1 MHz	C_D	-	4	-	pF

ELECTRICAL CHARACTERISTICS (pin 1 to pin 2)
(T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	$N_{channel}$	-	-	1	lines
Reverse stand-off voltage	Max. reverse working voltage	V_{RWM}	-	-	7	V
Reverse voltage	At I_R = 0.1 µA	V_R	7	-	-	V
Reverse current	At V_{RWM} = 7 V	I_R	-	-	0.1	µA
Reverse breakdown voltage	At I_R = 1 mA	V_{BR}	7.3	-	-	V
Reverse clamping voltage	At I_{PP} = 1 A	V_C	-	-	13	V
	At I_{PP} = I_{PPM} = 5 A	V_C	-	-	17	V
Capacitance	At V = 0 V; f = 1 MHz	C_D	-	8	8.5	pF
	At V = 3.5 V; f = 1 MHz	C_D	-	6.4	-	pF

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

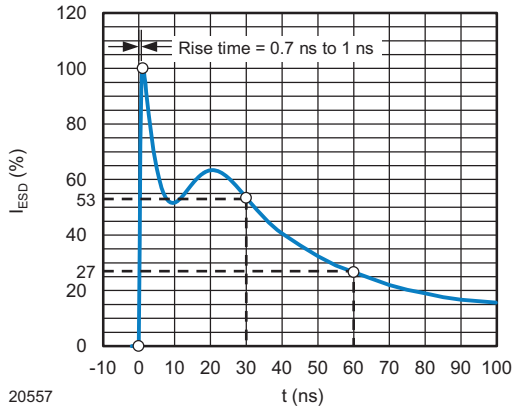


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330 Ω/150 pF)

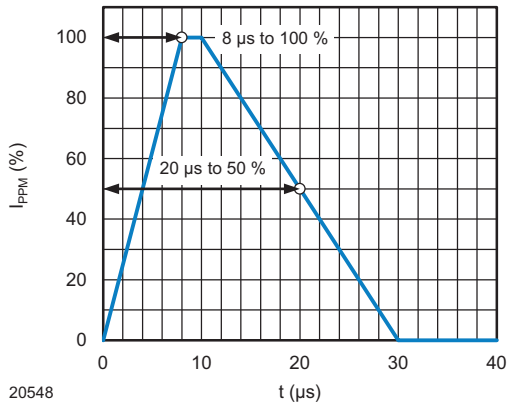


Fig. 2 - 8/20 µs Peak Pulse Current Wave Form acc. IEC 61000-4-5

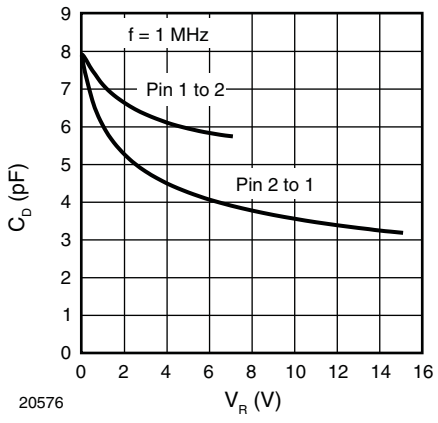


Fig. 3 - Typical Capacitance C_D vs. Reverse Voltage V_R

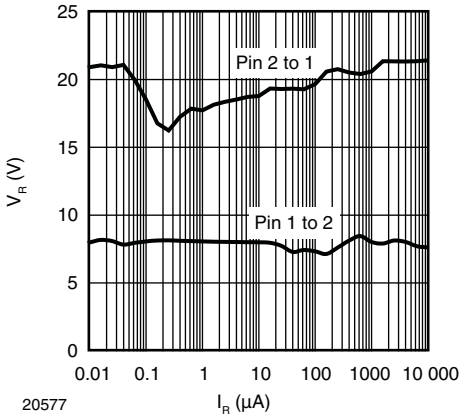


Fig. 4 - Typical Reverse Voltage V_R vs. Reverse Current I_R

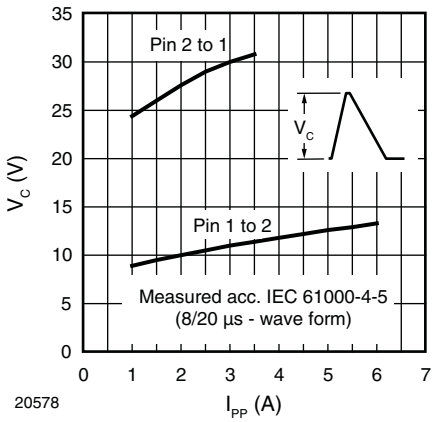


Fig. 5 - Typical Peak Clamping Voltage V_C vs. Peak Pulse Current I_{PP}

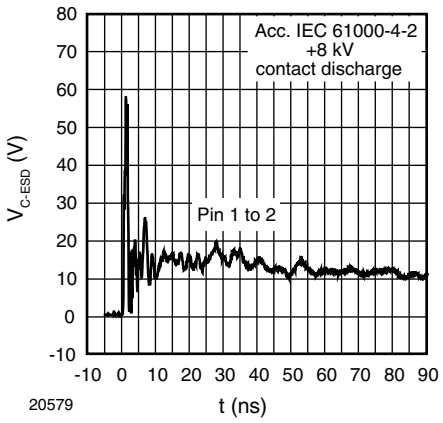


Fig. 6 - Typical Clamping Performance at + 8 kV Contact Discharge (acc. IEC 61000-4-2)

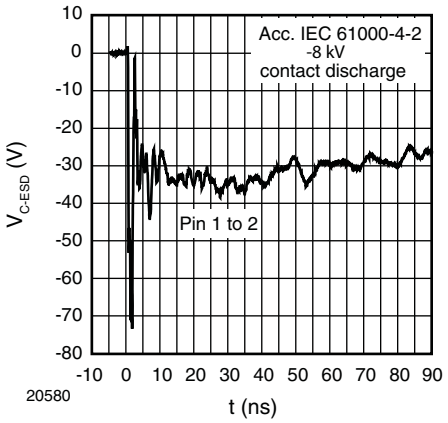


Fig. 7 - Typical Clamping Performance at - 8 kV Contact Discharge (acc. IEC 61000-4-2)

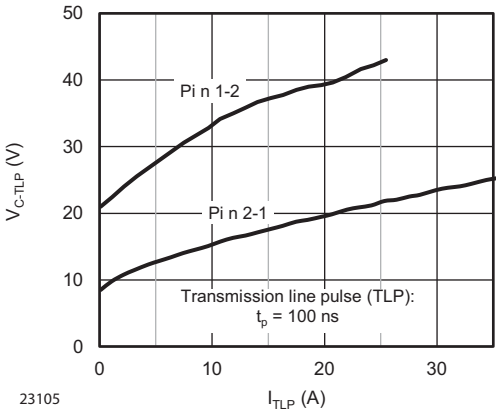
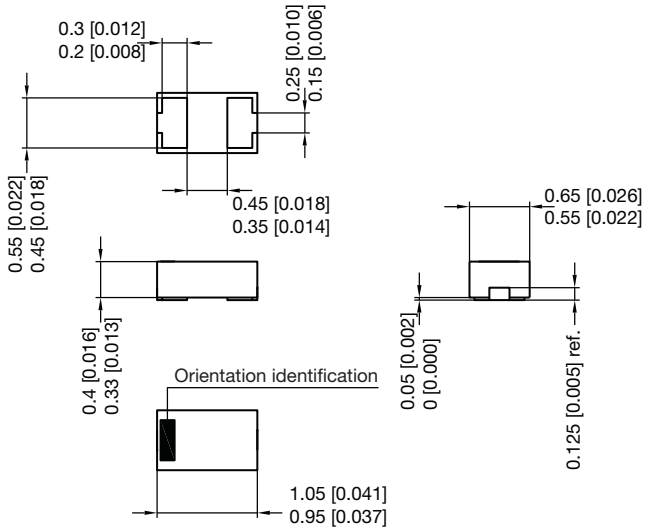
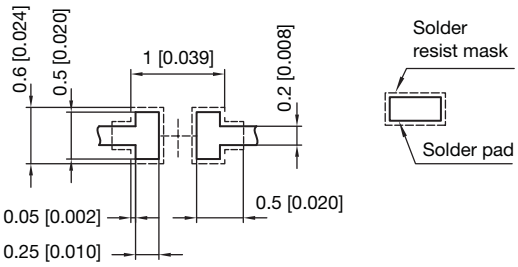


Fig. 8 - Typical Peak Clamping Voltage vs. Peak Pulse Current

PACKAGE DIMENSIONS in millimeters (inches): **LLP1006-2L**

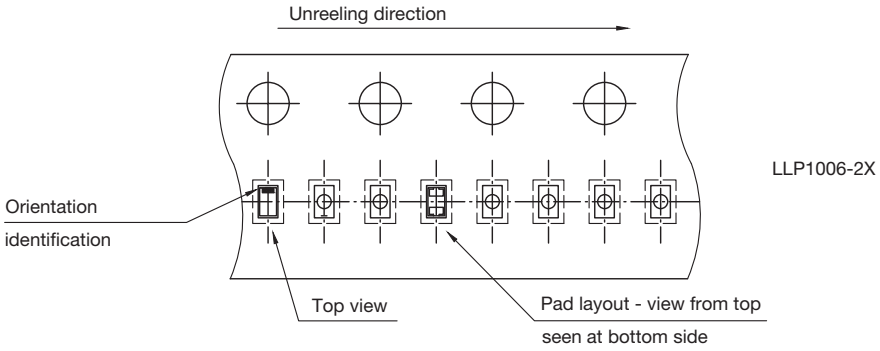


Foot print recommendation:



Pad Design Patented:
(Ⓟ US 9.018.537 B2)

Document no.: S8-V-3906.04-005 (4)
Rev. 7 - Date: 11.May 2016
20812



S8-V-3906.04-017 (4)
02.05.2017
22965

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.