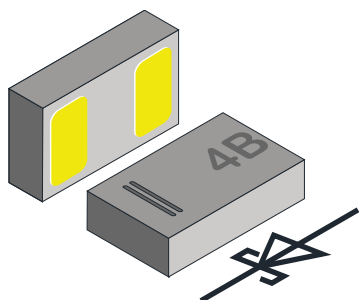


Schottky Rectifier Surface-Mount FlipKY® Gen 3



LINKS TO ADDITIONAL RESOURCES



FEATURES

- Schottky diode for high-speed switching
- Very low dimensions:
1.0 mm x 0.6 mm x 0.29 mm
- 0.5 A forward current
- 40 V reverse voltage
- Low forward voltage drop (typ. 425 mV at 500 mA)
- Low reverse current (< 15 µA at 10 V)
- AEC-Q101 qualified available
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912



PRIMARY CHARACTERISTICS

I_F	500 mA
V_R	40 V
V_F at $I_F = 500$ mA	425 mV
I_{FSM} ($t_p = 8.3$ ms)	12 A
T_J max.	150 °C
Package	CLP1006-2L
Circuit configuration	Single

PARTS TABLE

PART	GRADE	ORDERING CODE	CIRCUIT CONFIGURATION	PACKAGE NAME	TYPE MARKING	WEIGHT	TAPED UNITS PER REEL (8 mm TAPE ON 7" REEL)	MINIMUM ORDER QUANTITY
VSKY0540A6	Industrial	VSKY0540A6-G4-08	Single	CLP1006-2L	4B	0.4 mg	10 000	10 000
VSKY0540A6	AEC-Q101	VSKY0540A6HG4-08	Single	CLP1006-2L	4B	0.4 mg	10 000	10 000

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25$ °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	40	V
Forward continuous current		I_F	500	mA
Surge forward current	Single pulse; 8.3 ms half sine-wave	I_{FSM}	12	A
Power dissipation	Minimal footprint	P_{tot}	700	mW
Power dissipation	Infinite heatsink	P_{tot}	-	mW

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	Acc. JEDEC® 51-3 with minimal footprint on FR4 PCB	R_{thJA}	280	K/W
Thermal resistance junction to soldering point	Acc. JEDEC® JESD51-14	R_{thJS}	12	K/W
Maximum operating junction temperature		T_J max.	150	°C
Storage temperature range		T_{stg}	-65 to + 150	°C



ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	TYP.	MAX.	UNIT
Leakage current	$V_R = 10\text{ V}$	I_R	-	15	μA
Leakage current	$V_R = 40\text{ V}$	I_R	-	17	μA
Forward voltage	$I_F = 10\text{ mA}$	V_F	267	310	mV
Forward voltage	$I_F = 100\text{ mA}$	V_F	330	377	mV
Forward voltage	$I_F = 500\text{ mA}$	V_F	425	478	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	C_D	140	-	pF

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

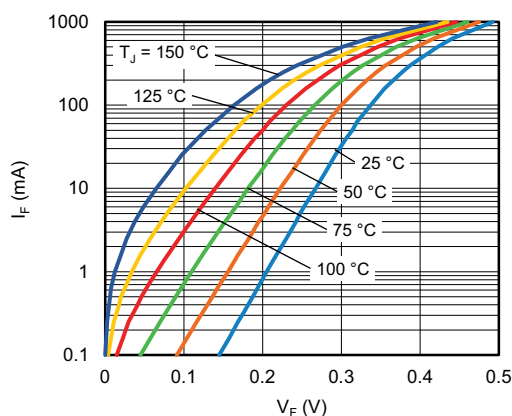


Fig. 1 - Typical Forward Current vs. Forward Voltage

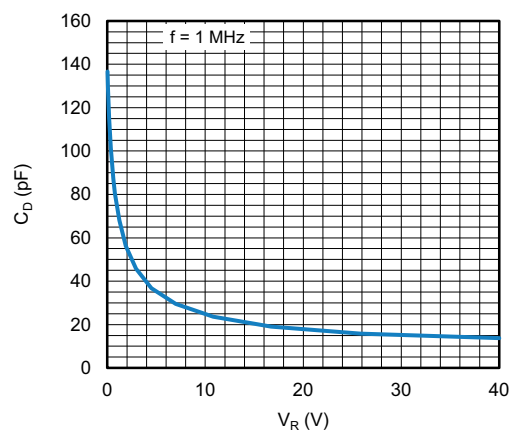


Fig. 3 - Typical Capacitance vs. Reverse Voltage

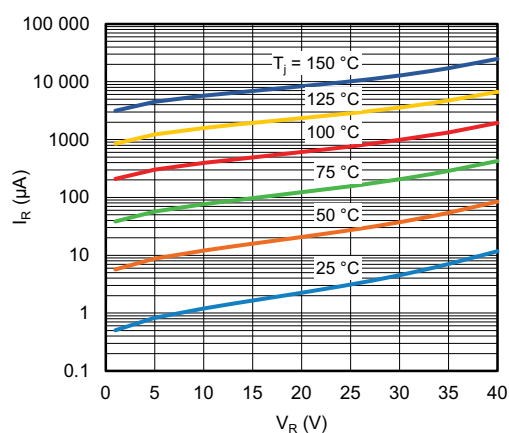


Fig. 2 - Typical Reverse Leakage Current vs. Reverse Voltage

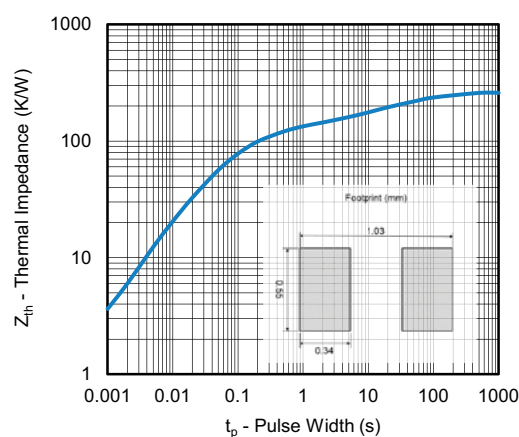
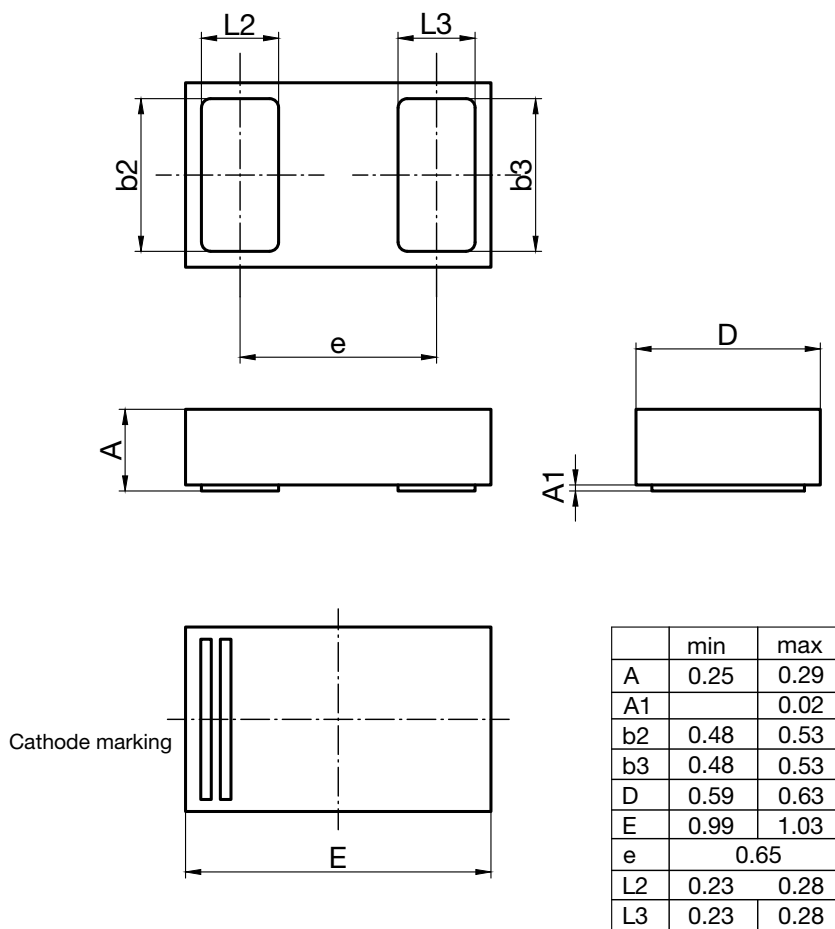


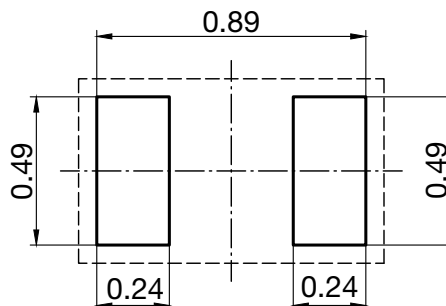
Fig. 4 - Typical Thermal Impedance vs. Time

PACKAGE DIMENSIONS in millimeters: **CLP1006-2L**

Package = Chip Dimensions in mm



foot print recommendation:

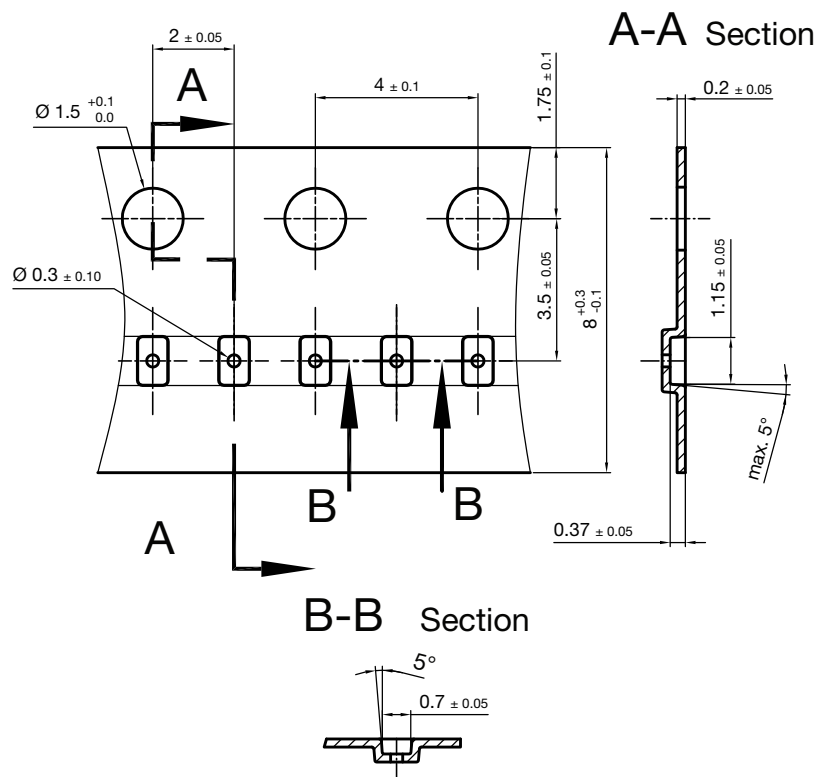

Marking side chipping

Marking side chipping depth is controlled to be less than 100 μm under normal manufacturing conditions.
This parameter is monitored as part of process control and is not subject to 100% inspection.
It does not affect product electrical performance or reliability.

Document no.:S8-V-3906.04-039 (4)
Created - Date: 02. April 2015
Rev.2 - Date: 19. Dec. 2023
23229

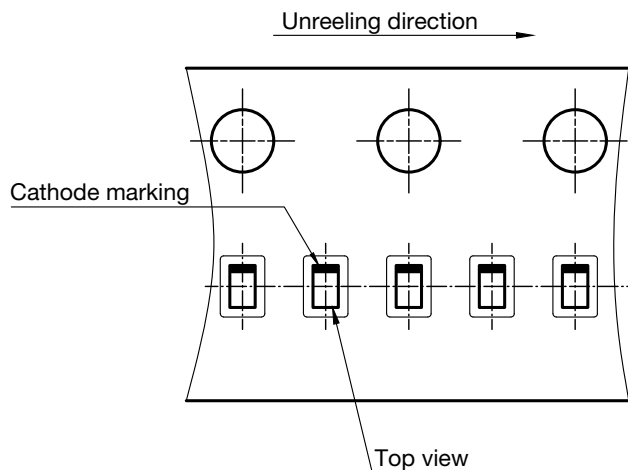
Footprint and soldering recommendation:

please see Application Note: www.vishay.com/doc?85917

CARRIER TAPE in millimeters: **CLP1006-2L**


Cummulative tolerances of 10 sprocket holes is ± 0.2 mm

Carrier tape CLP1006-2L
S8-V-3906.04-051 (4)
03.02.2016
22937

ORIENTATION IN CARRIER CLP1006-2L


Orientation in Carrier CLP1006-2L (VSKY)
S8-V-3906.04-052 (4)
23.12.2023
22938



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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. 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.