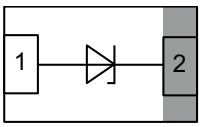
Small Signal Zener Diodes





MARKING (example only)



Bar = cathode marking
X = date code
YY = type code (see page 2)

LINKS TO ADDITIONAL RESOURCES

3D Models | SPICE Models | Application Notes

FEATURES

- Silicon planar Zener diodes
- Low leakage current, low noise
- Excellent stability
- Surge rated
- ± 2 % Zener voltage tolerance
- Leadless ultra small DFN1006-2A package (1 mm × 0.6 mm × 0.45 mm)
- Power dissipation better than SOT-23
- Surface-mounted device (SMD) plastic package with visible and sidewall plated / wettable flanks
- Soldering can be checked by standard visual inspection. No X-ray inspection necessary to meet automotive AOI requirements
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
V_Z range nom.	4.7 to 47	V
Test current I_{ZT}	2; 5	mA
V_Z specification	Pulse current	
Circuit configuration	Single	

ORDERING INFORMATION				
DEVICE NAME	ORDERING CODE	AEC-Q101 QUALIFIED	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
BZX884BxxxL Series	BZX884Bxxx-G3-08	no	10 000 (8 mm tape on 7" reel)	10 000
	BZX884Bxxx-HG3-08	yes		10 000

Note

- xxx stands for any part number/voltage group, as shown in the table of page 2

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
DFN1006-2A	0.83 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	on FR-4 board with recommended soldering footprint	P_{tot}	300	mW
Non-repetitive peak reverse power	t_p = 100 µs	P_{ZSM}	26	W
Maximum junction temperature		$T_{j\ max.}$	150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Thermal resistance junction to ambient air	according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R_{thJA}	420	K/W
Thermal resistance junction to lead		R_{thJL}	100	K/W

ELECTRICAL SPECIFICATIONS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MAX.**	**UNIT**
Forward voltage	I_F = 10 mA	V_F	0.9	V

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

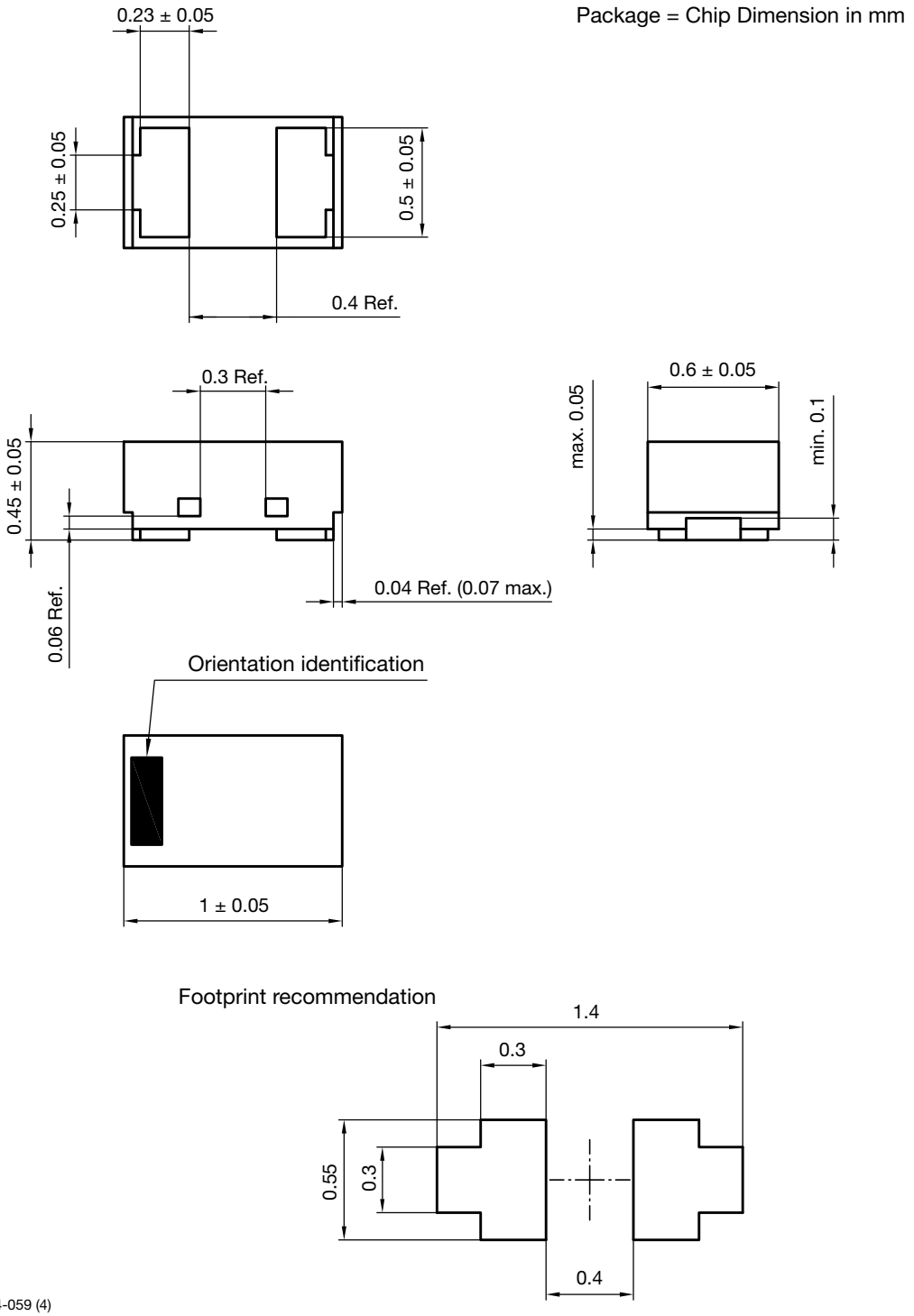
PART NUMBER	TYPE CODE	ZENER VOLTAGE RANGE (1)			TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE	
		V_Z at I_{ZT1}			I_{ZT1}	I_{ZT2}	I_R at V_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}	α_{VZ} at I_{ZT1}	
		V			mA		µA	V	Ω		10^{-4}/°C	
		MIN.	NOM.	MAX.			MAX.		MAX.	MAX.	MIN.	MAX.
BZX884B4V7L	AK	4.61	4.7	4.79	5	1	3	2	80	500	-5	2
BZX884B5V1L	AL	5	5.1	5.2	5	1	2	2	60	480	-3	4
BZX884B5V6L	AN	5.49	5.6	5.71	5	1	1	2	40	400	-2	6
BZX884B6V2L	AO	6.08	6.2	6.32	5	1	3	4	10	150	-1	7
BZX884B6V8L	AP	6.66	6.8	6.94	5	1	2	4	15	80	2	7
BZX884B7V5L	AS	7.35	7.5	7.65	5	1	1	5	15	80	3	7
BZX884B8V2L	AT	8.04	8.2	8.36	5	1	0.7	5	15	80	4	7
BZX884B9V1L	AU	8.92	9.1	9.28	5	1	0.5	6	15	100	5	8
BZX884B10L	AV	9.8	10	10.2	5	1	0.2	7	20	150	5	8
BZX884B11L	AX	10.78	11	11.22	5	1	0.1	8	20	150	5	9
BZX884B12L	AY	11.76	12	12.24	5	1	0.1	8	25	150	6	9
BZX884B13L	A2	12.74	13	13.26	5	1	0.1	8	30	170	7	9
BZX884B15L	A3	14.7	15	15.3	5	1	0.05	10.5	30	200	7	9
BZX884B16L	A5	15.68	16	16.32	5	1	0.05	11.2	40	200	8	9.5
BZX884B18L	A9	17.64	18	18.36	5	1	0.05	12.6	45	225	8	10
BZX884B20L	BA	19.6	20	20.4	5	1	0.05	14	55	225	8	10
BZX884B22L	BB	21.56	22	22.44	5	1	0.05	15.4	55	250	8	10
BZX884B24L	BD	23.52	24	24.48	5	1	0.05	16.8	70	250	8	10
BZX884B27L	BE	26.46	27	27.54	2	0.5	0.05	18.9	80	300	8	10
BZX884B30L	BG	29.4	30	30.6	2	0.5	0.05	21	80	300	8	10
BZX884B33L	BH	32.34	33	33.66	2	0.5	0.05	23.1	80	325	8	10
BZX884B36L	BJ	35.28	36	36.72	2	0.5	0.05	25.2	90	350	8	10
BZX884B39L	BK	38.22	39	39.78	2	0.5	0.05	27.3	130	350	10	12
BZX884B43L	BL	42.14	43	43.86	2	35	0.05	30.1	150	375	10	12
BZX884B47L	BN	46.06	47	47.94	2	0.5	0.05	32.9	170	375	10	12

Notes

(1) Pulse test t_p = 5 ms

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

PACKAGE DIMENSIONS in millimeters: **DFN1006-2A**

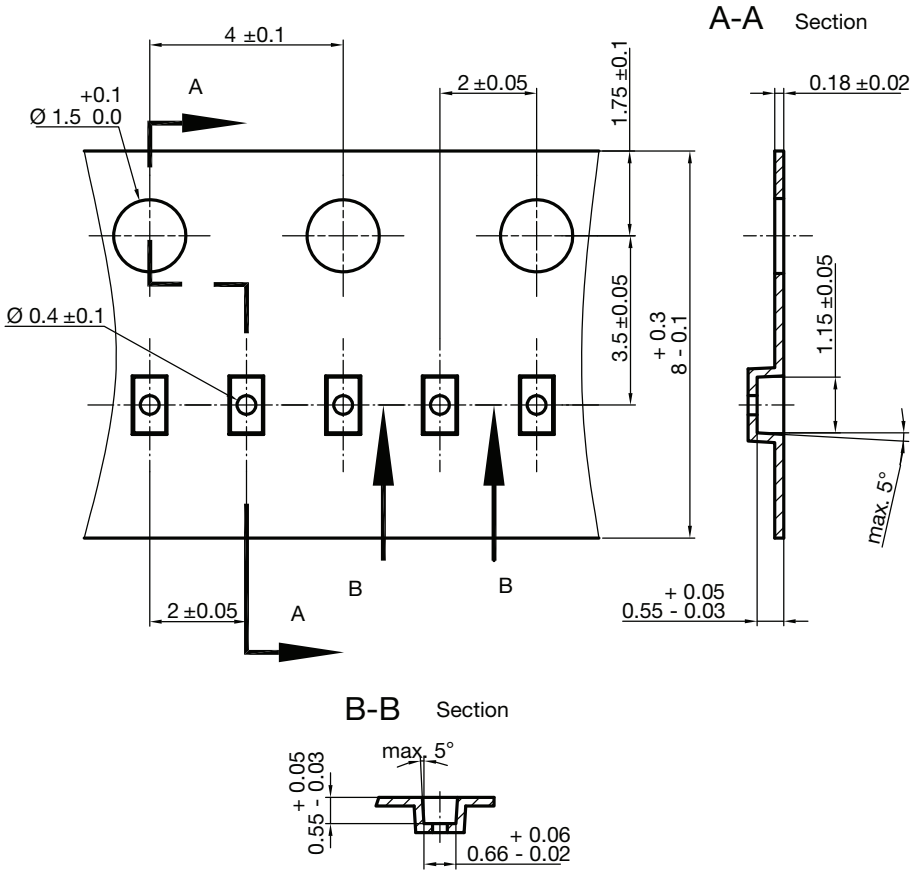


Document no.: S8-V-3906.04-059 (4)
Created - Date: 11-Jul-2018
Rev.5 - Date: 17-Sep-2021

23191

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

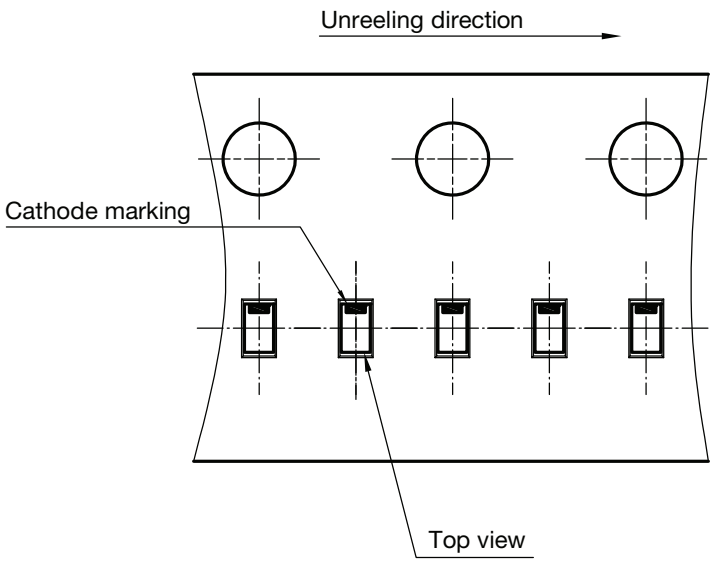
CARRIER TAPE DFN1006-2A



S8-V-3906.04-063 (4)
created 28.10.2019

surface resistance: 10^5 - 10^{11} $\frac{\text{OHMS}}{\text{SQ}}$
Cummulative tolerances of 10 sprocket holes is ± 0.2 mm

ORIENTATION IN CARRIER TAPE DFN1006-2A



S8-V-3906.04-064 (4)
created 28.10.2019

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

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.

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.

© 2022 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED