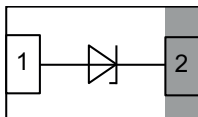


Small Signal Zener Diodes



FEATURES

- Silicon planar Zener diodes
- Low leakage current, low noise
- Excellent stability
- Surge rated
- $\pm 2\%$ Zener voltage tolerance
- Leadless ultra small DFN1006-2A package (1 mm \times 0.6 mm \times 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



LINKS TO ADDITIONAL RESOURCES



| 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 ($T_{amb} = 25\text{ °C}$, 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 | $t_p = 100\text{ }\mu\text{s}$ | P_{ZSM} | 26 | W |
| Maximum junction temperature | | $T_{j\text{ max.}}$ | 150 | °C |
| Storage temperature range | | T_{stg} | -55 to +150 | °C |
| Operating temperature range | | T_{op} | -55 to +150 | °C |

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$, 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** ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | MAX. | UNIT |
|-----------------|----------------------|--------|------|------|
| Forward voltage | $I_F = 10\text{ mA}$ | V_F | 0.9 | V |

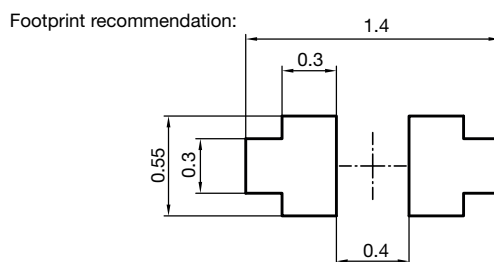
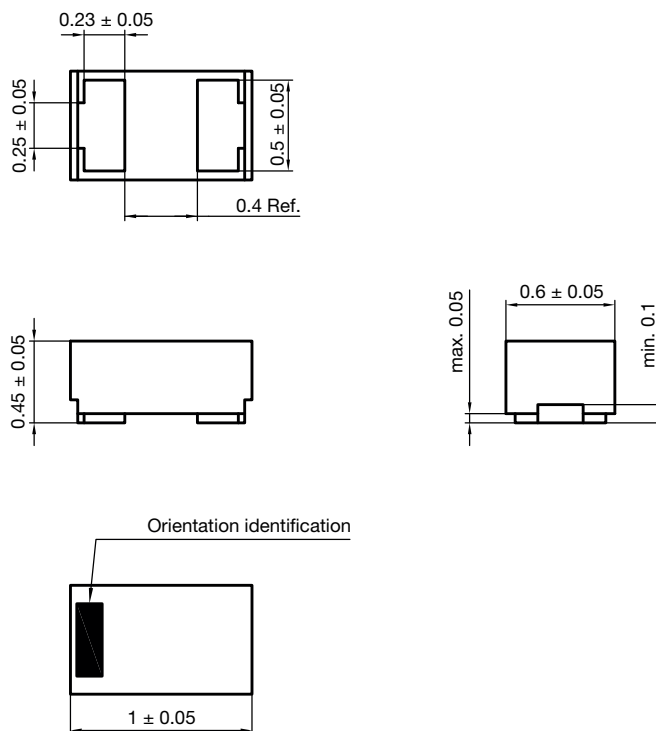
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

| PART NUMBER | MARKING 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 | | $10^{-4}/^{\circ}\text{C}$ | |
| | | 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 | AR | 7.35 | 7.5 | 7.65 | 5 | 1 | 1 | 5 | 15 | 80 | 3 | 7 |
| BZX884B8V2L | AS | 8.04 | 8.2 | 8.36 | 5 | 1 | 0.7 | 5 | 15 | 80 | 4 | 7 |
| BZX884B9V1L | AT | 8.92 | 9.1 | 9.28 | 5 | 1 | 0.5 | 6 | 15 | 100 | 5 | 8 |
| BZX884B10L | AU | 9.8 | 10 | 10.2 | 5 | 1 | 0.2 | 7 | 20 | 150 | 5 | 8 |
| BZX884B11L | AV | 10.78 | 11 | 11.22 | 5 | 1 | 0.1 | 8 | 20 | 150 | 5 | 9 |
| BZX884B12L | AX | 11.76 | 12 | 12.24 | 5 | 1 | 0.1 | 8 | 25 | 150 | 6 | 9 |
| BZX884B13L | AY | 12.74 | 13 | 13.26 | 5 | 1 | 0.1 | 8 | 30 | 170 | 7 | 9 |
| BZX884B15L | A2 | 14.7 | 15 | 15.3 | 5 | 1 | 0.05 | 10.5 | 30 | 200 | 7 | 9 |
| BZX884B16L | A3 | 15.68 | 16 | 16.32 | 5 | 1 | 0.05 | 11.2 | 40 | 200 | 8 | 9.5 |
| BZX884B18L | A4 | 17.64 | 18 | 18.36 | 5 | 1 | 0.05 | 12.6 | 45 | 225 | 8 | 10 |
| BZX884B20L | A5 | 19.6 | 20 | 20.4 | 5 | 1 | 0.05 | 14 | 55 | 225 | 8 | 10 |
| BZX884B22L | B5 | 21.56 | 22 | 22.44 | 5 | 1 | 0.05 | 15.4 | 55 | 250 | 8 | 10 |
| BZX884B24L | A7 | 23.52 | 24 | 24.48 | 5 | 1 | 0.05 | 16.8 | 70 | 250 | 8 | 10 |
| BZX884B27L | A9 | 26.46 | 27 | 27.54 | 2 | 0.5 | 0.05 | 18.9 | 80 | 300 | 8 | 10 |
| BZX884B30L | BA | 29.4 | 30 | 30.6 | 2 | 0.5 | 0.05 | 21 | 80 | 300 | 8 | 10 |
| BZX884B33L | BB | 32.34 | 33 | 33.66 | 2 | 0.5 | 0.05 | 23.1 | 80 | 325 | 8 | 10 |
| BZX884B36L | BC | 35.28 | 36 | 36.72 | 2 | 0.5 | 0.05 | 25.2 | 90 | 350 | 8 | 10 |
| BZX884B39L | BD | 38.22 | 39 | 39.78 | 2 | 0.5 | 0.05 | 27.3 | 130 | 350 | 10 | 12 |
| BZX884B43L | BE | 42.14 | 43 | 43.86 | 2 | 35 | 0.05 | 30.1 | 150 | 375 | 10 | 12 |
| BZX884B47L | BG | 46.06 | 47 | 47.94 | 2 | 0.5 | 0.05 | 32.9 | 170 | 375 | 10 | 12 |

Notes⁽¹⁾ Pulse test $t_p = 5\text{ ms}$

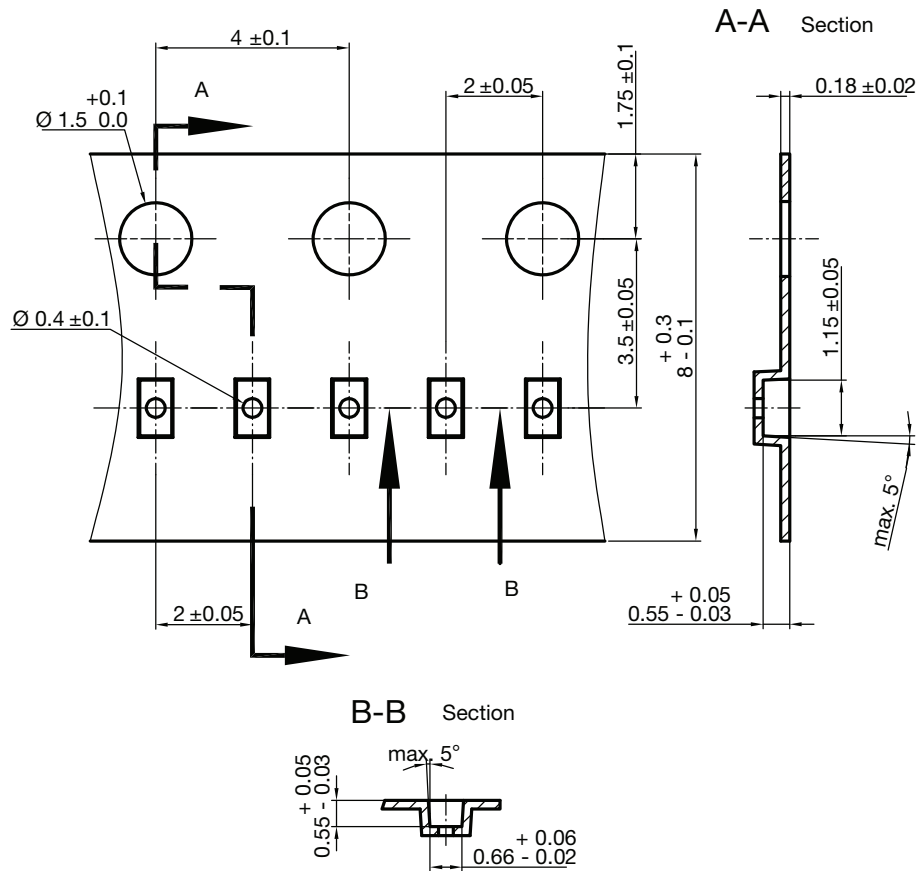


PACKAGE DIMENSIONS in millimeters: **DFN1006-2A**



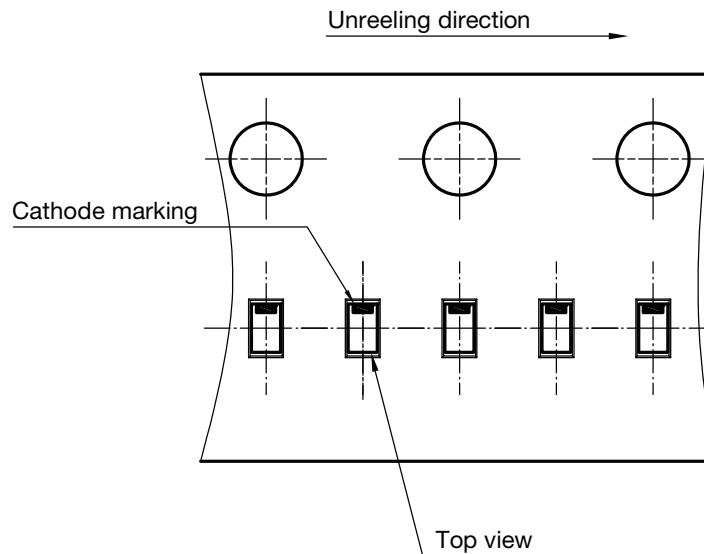
Document no.: S8-V3906.04-059 (4)
Created - Date: 11-July-2018
Rev.3 - Date: 02-Nov-2020

23170

CARRIER TAPE DFN1006-2A


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

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

ORIENTATION IN CARRIER TAPE DFN1006-2A


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



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