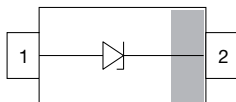
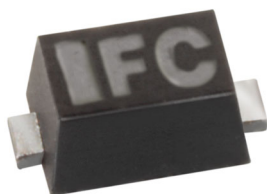


Small Signal Zener Diodes



LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS | | |
|-------------------------|---------------|------|
| PARAMETER | VALUE | UNIT |
| V_Z range nom. | 2.2 to 36 | V |
| Test current I_{ZT} | 2; 5 | mA |
| V_Z specification | Pulse current | |
| Circuit configuration | Single | |

FEATURES

- With the BZX584C... Series Vishay offers a Z-diode in the tiny SOD-523 plastic package. Made for space sensitive applications the BZX584C... Series has a Zener voltage tolerance of $\pm 5\%$
- AEC-Q101 qualified available
- Base P/N-G3 - RoHS-compliant, commercial grade
- Base P/N-HG3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



| ORDERING INFORMATION | | | |
|----------------------|-------------------|-----------------------------|------------------------|
| DEVICE NAME | ORDERING CODE | TAPED UNITS PER REEL | MINIMUM ORDER QUANTITY |
| BZX584Cxxx- Series | BZX584Cxxx-G3-08 | 8000 (8 mm tape on 7" reel) | 8000 |
| | BZX584Cxxx-HG3-08 | | |

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 |
| SOD-523 | 1.32 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} | 200 | mW | |
| | On FR-4 board with 5 mm x 5 mm footprint | | 300 | mW | |
| Thermal resistance junction to ambient air | According to JEDEC® 51-3 on FR-4 board with recommended soldering footprint | R_{thJA} | 600 | K/W | |
| | According to JEDEC 51-3 on FR-4 board with 5 mm x 5 mm footprint | | 400 | K/W | |
| Thermal resistance junction to lead | Infinite heatsink | R_{thJL} | 200 | K/W | |
| Junction temperature | | T_j | 150 | °C | |
| Storage temperature range | | T_{stg} | -65 to +150 | °C | |

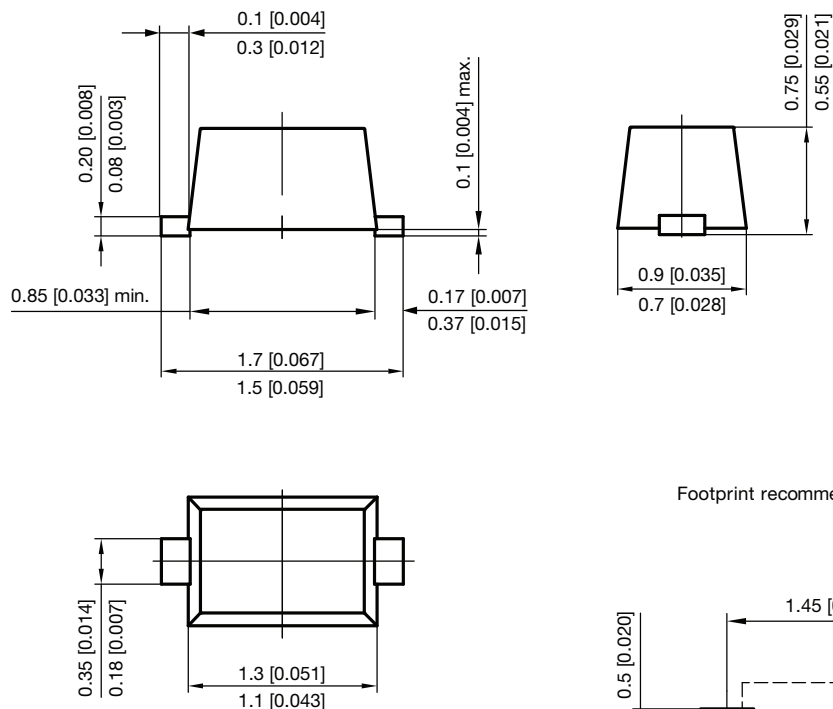
**ELECTRICAL CHARACTERISTICS** ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

| 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. |
| BZX584C2V2 | :T | 2 | 2.2 | 2.4 | 5 | 1 | 100 | 1 | 65 (≤ 120) | 250 (≤ 600) | -9 | -4 |
| BZX584C2V4 | :2 | 2.2 | 2.4 | 2.6 | 5 | 1 | 50 | 1 | 70 (≤ 100) | 275 (≤ 600) | -9 | -4 |
| BZX584C2V7 | :3 | 2.5 | 2.7 | 2.9 | 5 | 1 | 20 | 1 | 75 (≤ 100) | 300 (≤ 600) | -9 | -4 |
| BZX584C3V0 | :4 | 2.8 | 3.0 | 3.2 | 5 | 1 | 10 | 1 | 80 (≤ 100) | 325 (≤ 600) | -9 | -3 |
| BZX584C3V3 | :5 | 3.1 | 3.3 | 3.5 | 5 | 1 | 5 | 1 | 85 (≤ 95) | 350 (≤ 600) | -8 | -3 |
| BZX584C3V6 | :6 | 3.4 | 3.6 | 3.8 | 5 | 1 | 5 | 1 | 85 (≤ 95) | 375 (≤ 600) | -8 | -3 |
| BZX584C3V9 | :7 | 3.7 | 3.9 | 4.1 | 5 | 1 | 3 | 1 | 85 (≤ 90) | 400 (≤ 600) | -7 | -3 |
| BZX584C4V3 | :8 | 4 | 4.3 | 4.6 | 5 | 1 | 3 | 1 | 80 (≤ 90) | 410 (≤ 600) | -6 | -1 |
| BZX584C4V7 | :9 | 4.4 | 4.7 | 5 | 5 | 1 | 3 | 2 | 50 (≤ 80) | 425 (≤ 500) | -5 | 2 |
| BZX584C5V1 | :1 | 4.8 | 5.1 | 5.4 | 5 | 1 | 2 | 2 | 40 (≤ 60) | 400 (≤ 480) | -3 | 4 |
| BZX584C5V6 | :0 | 5.2 | 5.6 | 6 | 5 | 1 | 1 | 2 | 15 (≤ 40) | 80 (≤ 400) | -2 | 6 |
| BZX584C6V2 | :1 | 5.8 | 6.2 | 6.6 | 5 | 1 | 3 | 4 | 6 (≤ 10) | 40 (≤ 150) | -1 | 7 |
| BZX584C6V8 | :Z | 6.4 | 6.8 | 7.2 | 5 | 1 | 2 | 4 | 6 (≤ 15) | 30 (≤ 80) | 2 | 7 |
| BZX584C7V5 | :8 | 7 | 7.5 | 7.9 | 5 | 1 | 1 | 5 | 6 (≤ 15) | 30 (≤ 80) | 3 | 7 |
| BZX584C8V2 | :L | 7.7 | 8.2 | 8.7 | 5 | 1 | 0.7 | 5 | 6 (≤ 15) | 40 (≤ 80) | 4 | 7 |
| BZX584C9V1 | :S | 8.5 | 9.1 | 9.6 | 5 | 1 | 0.5 | 6 | 6 (≤ 15) | 40 (≤ 100) | 5 | 8 |
| BZX584C10 | :H | 9.4 | 10 | 10.6 | 5 | 1 | 0.2 | 7 | 8 (≤ 20) | 50 (≤ 150) | 5 | 8 |
| BZX584C11 | :d | 10.4 | 11 | 11.6 | 5 | 1 | 0.1 | 8 | 10 (≤ 20) | 50 (≤ 150) | 5 | 9 |
| BZX584C12 | :Z | 11.4 | 12 | 12.7 | 5 | 1 | 0.1 | 8 | 10 (≤ 25) | 50 (≤ 150) | 6 | 9 |
| BZX584C13 | :9 | 12.4 | 13 | 14.1 | 5 | 1 | 0.1 | 8 | 10 (≤ 30) | 50 (≤ 170) | 7 | 9 |
| BZX584C15 | :b | 13.8 | 15 | 15.6 | 5 | 1 | 0.1 | 8 | 10 (≤ 30) | 50 (≤ 200) | 7 | 9 |
| BZX584C16 | :t | 15.3 | 16 | 17.1 | 5 | 1 | 0.05 | 0.7 $V_{Znom.}$ | 10 (≤ 40) | 50 (≤ 200) | 8 | 9.5 |
| BZX584C18 | :S | 16.8 | 18 | 19.1 | 5 | 1 | 0.05 | 0.7 $V_{Znom.}$ | 10 (≤ 45) | 50 (≤ 225) | 8 | 9.5 |
| BZX584C20 | :P | 18.8 | 20 | 21.2 | 5 | 1 | 0.05 | 0.7 $V_{Znom.}$ | 15 (≤ 55) | 60 (≤ 225) | 8 | 10 |
| BZX584C22 | :J | 20.8 | 22 | 23.3 | 5 | 1 | 0.05 | 0.7 $V_{Znom.}$ | 20 (≤ 55) | 60 (≤ 250) | 8 | 10 |
| BZX584C24 | :8 | 22.8 | 24 | 25.6 | 5 | 1 | 0.05 | 0.7 $V_{Znom.}$ | 25 (≤ 70) | 60 (≤ 250) | 8 | 10 |
| BZX584C27 | :V | 25.1 | 27 | 28.9 | 2 | 0.5 | 0.05 | 0.7 $V_{Znom.}$ | 25 (≤ 80) | 65 (≤ 300) | 8 | 10 |
| BZX584C30 | :K | 28 | 30 | 32 | 2 | 0.5 | 0.05 | 0.7 $V_{Znom.}$ | 30 (≤ 80) | 70 (≤ 300) | 8 | 10 |
| BZX584C33 | :e | 31 | 33 | 35 | 2 | 0.5 | 0.05 | 0.7 $V_{Znom.}$ | 35 (≤ 80) | 75 (≤ 325) | 8 | 10 |
| BZX584C36 | :q | 34 | 36 | 38 | 2 | 0.5 | 0.05 | 0.7 $V_{Znom.}$ | 35 (≤ 90) | 80 (≤ 350) | 8 | 10 |

Note(1) Pulse test $t_P = 10\text{ ms}$



PACKAGE DIMENSIONS in millimeters [inches]: **SOD-523**



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