

Zeners 1N5985B - 1N6025B

Absolute Maximum Ratings * T_A = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------------------------------|--|-------------|-------|
| P _D | Power Dissipation @ TL ≤ 75°C, Lead Length = 3/8" | 500 | mW |
| | Derate above 75°C | 4.0 | mW/°C |
| T _J , T _{STG} | Operating and Storage Temperature Range | -65 to +200 | °C |

* These ratings are limiting values above which the serviceability of the diode may be impaired.

Tolerance = 5%



Electrical Characteristics T_A = 25°C unless otherwise noted

| Device | V _Z (V) @ I _Z (Note 1) | | | Test Current I _Z (mA) | Zener Impedance | | leakage Current | | I _{ZM} (mA) (Note 2) |
|---------|--|------|-------|-------------------------------------|--|--|------------------------|-----------------------|----------------------------------|
| | Min. | Typ. | Max. | | Z _Z @ I _Z (Ω) | Z _{ZK} @ I _{ZK} = 250μA (Ω) | I _R (mA) | V _R (V) | |
| 1N5985B | 2.58 | 2.4 | 2.52 | 5 | 100 | 1800 | 100 | 1 | 208 |
| 1N5986B | 2.565 | 2.7 | 2.835 | 5 | 100 | 1900 | 75 | 1 | 185 |
| 1N5987B | 2.85 | 3 | 3.15 | 5 | 95 | 2000 | 50 | 1 | 167 |
| 1N5988B | 3.135 | 3.3 | 3.465 | 5 | 95 | 2200 | 25 | 1 | 152 |
| 1N5989B | 3.42 | 3.6 | 3.78 | 5 | 90 | 2300 | 15 | 1 | 139 |
| 1N5990B | 3.705 | 3.9 | 4.095 | 5 | 90 | 2400 | 10 | 1 | 128 |
| 1N5991B | 4.085 | 4.3 | 4.515 | 5 | 88 | 2500 | 5 | 1 | 116 |
| 1N5992B | 4.465 | 4.7 | 4.935 | 5 | 70 | 2200 | 3 | 1.5 | 106 |
| 1N5993B | 4.845 | 5.1 | 5.355 | 5 | 50 | 2050 | 2 | 2 | 98 |
| 1N5994B | 5.32 | 5.6 | 5.88 | 5 | 25 | 1800 | 2 | 3 | 89 |
| 1N5995B | 5.89 | 6.2 | 6.51 | 5 | 10 | 1300 | 1 | 4 | 81 |
| 1N5996B | 6.46 | 6.8 | 7.14 | 5 | 8 | 750 | 1 | 5.2 | 74 |
| 1N5997B | 7.125 | 7.5 | 7.875 | 5 | 7 | 600 | 0.5 | 6 | 67 |
| 1N5998B | 7.79 | 8.2 | 8.61 | 5 | 7 | 600 | 0.5 | 6.5 | 61 |
| 1N5999B | 8.645 | 9.1 | 9.555 | 5 | 10 | 600 | 0.1 | 7 | 55 |
| 1N6000B | 9.5 | 10 | 10.5 | 5 | 15 | 600 | 0.1 | 8 | 50 |
| 1N6001B | 10.45 | 11 | 11.55 | 5 | 18 | 600 | 0.1 | 8.4 | 45 |
| 1N6002B | 11.4 | 12 | 12.6 | 5 | 22 | 600 | 0.1 | 9.1 | 42 |
| 1N6003B | 12.35 | 13 | 13.65 | 5 | 25 | 600 | 0.1 | 9.9 | 38 |
| 1N6004B | 14.25 | 15 | 15.75 | 5 | 32 | 600 | 0.1 | 11 | 33 |
| 1N6005B | 15.2 | 16 | 16.8 | 5 | 36 | 600 | 0.1 | 12 | 31 |
| 1N6006B | 17.1 | 18 | 18.9 | 5 | 42 | 600 | 0.1 | 14 | 28 |
| 1N6007B | 19 | 20 | 21 | 5 | 48 | 600 | 0.1 | 15 | 25 |
| 1N6008B | 20.9 | 22 | 23.1 | 5 | 55 | 600 | 0.1 | 17 | 23 |
| 1N6009B | 22.8 | 24 | 25.2 | 5 | 62 | 600 | 0.1 | 18 | 21 |
| 1N6010B | 25.65 | 27 | 28.35 | 5 | 70 | 600 | 0.1 | 21 | 19 |
| 1N6011B | 28.5 | 30 | 31.5 | 5 | 78 | 600 | 0.1 | 23 | 17 |
| 1N6012B | 31.35 | 33 | 34.65 | 5 | 88 | 700 | 0.1 | 25 | 15 |
| 1N6013B | 34.2 | 36 | 37.8 | 5 | 95 | 700 | 0.1 | 27 | 14 |
| 1N6014B | 37.05 | 39 | 40.95 | 2 | 130 | 800 | 0.1 | 30 | 13 |

Electrical Characteristics (Continued) $T_A=25^\circ\text{C}$ unless otherwise noted

| Device | V_Z (V) @ I_Z (Note 1) | | | Test Current I_Z (mA) | Zener Impedance | | leakage Current | | I_{ZM} (mA) (Note 2) |
|---------|----------------------------|------|-------|----------------------------|-------------------------------|--|-----------------|--------------|---------------------------|
| | Min. | Typ. | Max. | | Z_Z @ I_Z (Ω) | Z_{ZK} @ $I_{ZK} = 250\mu\text{A}$ (Ω) | I_R (mA) | V_R (V) | |
| 1N6015B | 40.85 | 43 | 45.15 | 2 | 150 | 900 | 0.1 | 33 | 12 |
| 1N6016B | 44.65 | 47 | 49.35 | 2 | 170 | 1000 | 0.1 | 36 | 11 |
| 1N6017B | 48.45 | 51 | 53.55 | 2 | 180 | 1300 | 0.1 | 39 | 9.8 |
| 1N6018B | 53.2 | 56 | 58.8 | 2 | 200 | 1400 | 0.1 | 43 | 8.9 |
| 1N6019B | 58.9 | 62 | 65.1 | 2 | 225 | 1400 | 0.1 | 47 | 8 |
| 1N6020B | 64.6 | 68 | 71.4 | 2 | 240 | 1600 | 0.1 | 52 | 7.4 |
| 1N6021B | 71.25 | 75 | 78.75 | 2 | 265 | 1700 | 0.1 | 56 | 6.7 |
| 1N6022B | 77.9 | 82 | 86.1 | 2 | 280 | 2000 | 0.1 | 62 | 6.1 |
| 1N6023B | 86.45 | 91 | 95.55 | 2 | 300 | 2300 | 0.1 | 69 | 5.5 |
| 1N6024B | 95 | 100 | 105 | 1 | 500 | 2600 | 0.1 | 76 | 5 |
| 1N6025B | 104.5 | 110 | 115.5 | 1 | 650 | 3000 | 0.1 | 84 | 4.5 |

 V_F Forward Voltage = 1.2V Max @ $I_F = 200\text{mA}$ **Notes:**

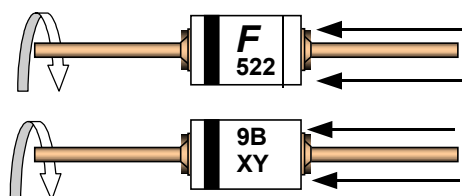
- Zener Voltage (V_Z)
The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature (T_L) at $30^\circ\text{C} \pm 1^\circ\text{C}$ and 3/8" lead length.
- Maximum Zener Current Ratings (I_{ZM})
The maximum current handling capability on a worst case basis is limited by the actual zener voltage at the operation point and the power derating curve.



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Top Mark Information

| Device | Line 1 | Line 2 | Line 3 | Line 4 |
|---------|--------|--------|--------|--------|
| 1N5985B | LOGO | 598 | 5B | XY |
| 1N5986B | LOGO | 598 | 6B | XY |
| 1N5987B | LOGO | 598 | 7B | XY |
| 1N5988B | LOGO | 598 | 8B | XY |
| 1N5989B | LOGO | 598 | 9B | XY |
| 1N5990B | LOGO | 599 | 0B | XY |
| 1N5991B | LOGO | 599 | 1B | XY |
| 1N5992B | LOGO | 599 | 2B | XY |
| 1N5993B | LOGO | 599 | 3B | XY |
| 1N5994B | LOGO | 599 | 4B | XY |
| 1N5995B | LOGO | 599 | 5B | XY |
| 1N5996B | LOGO | 599 | 6B | XY |
| 1N5997B | LOGO | 599 | 7B | XY |
| 1N5998B | LOGO | 599 | 8B | XY |
| 1N5999B | LOGO | 599 | 9B | XY |
| 1N6000B | LOGO | 600 | 0B | XY |
| 1N6001B | LOGO | 600 | 1B | XY |
| 1N6002B | LOGO | 600 | 2B | XY |
| 1N6003B | LOGO | 600 | 3B | XY |
| 1N6004B | LOGO | 600 | 4B | XY |
| 1N6005B | LOGO | 600 | 5B | XY |
| 1N6006B | LOGO | 600 | 6B | XY |
| 1N6007B | LOGO | 600 | 7B | XY |
| 1N6008B | LOGO | 600 | 8B | XY |
| 1N6009B | LOGO | 600 | 9B | XY |
| 1N6010B | LOGO | 601 | 0B | XY |
| 1N6011B | LOGO | 601 | 1B | XY |
| 1N6012B | LOGO | 601 | 2B | XY |
| 1N6013B | LOGO | 601 | 3B | XY |
| 1N6014B | LOGO | 601 | 4B | XY |
| 1N6015B | LOGO | 601 | 5B | XY |
| 1N6016B | LOGO | 601 | 6B | XY |
| 1N6017B | LOGO | 601 | 7B | XY |
| 1N6018B | LOGO | 601 | 8B | XY |
| 1N6019B | LOGO | 601 | 9B | XY |
| 1N6020B | LOGO | 602 | 0B | XY |
| 1N6021B | LOGO | 602 | 1B | XY |
| 1N6022B | LOGO | 602 | 2B | XY |
| 1N6023B | LOGO | 602 | 3B | XY |
| 1N6024B | LOGO | 602 | 4B | XY |
| 1N6025B | LOGO | 602 | 5B | XY |

Top Mark Information (Continued)

1st line: F - Fairchild Logo

2nd line: Device Name - 3rd to 5th characters of the device name.
or 4th to 6th characters for BZXyy series

3rd line: Device Name - 6th to 7th characters of the device name.
or Voltage rating for BZXyy series

4th line: Device Code or - Two Digit - Six Weeks Date Code.
Date code plus or Two Digit - Six Weeks Date Code
Large die identification plus Large die identification, "L"

General Requirements:

1.0 Cathod Band

2.0 First Line: F - Fairchild Logo

3.0 Second Line: Device name - For 1Nxx series: 3rd to 5th characters of the device name.
For BZxx series: 4th to 6th characters of the device name.

4.0 Third Line: Device name - For 1Nxx series: 6th to 7th characters of the device name.
For BZXyy series: Voltage rating

5.0 Fourth Line: XY or XYL - Two Digit - Six Weeks Date Code

Where: X represents the last digit of the calendar year

Y represents the Six weeks numeric code

L represents the Large die identification

6.0 Devices shall be marked as required in the device specification (PID or FSC Test Spec).

7.0 Maximum no. of marking lines: 4

8.0 Maximum no. of digits per line: 3

9.0 FSC logo must be 20 % taller than the alphanumeric marking and should occupy the 2 characters of the specified line.

10.0 Marking Font: Arial (Except FSC Logo)

11.0 First character of each marking line must be aligned vertically

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| Bottomless™ | FASTr™ | MICROCOUPLER™ | PowerSaver™ | SuperSOT™-3 |
| CoolFET™ | FPS™ | MicroFET™ | PowerTrench® | SuperSOT™-6 |
| CROSSVOLT™ | FRFET™ | MicroPak™ | QFET® | SuperSOT™-8 |
| DOME™ | GlobalOptoisolator™ | MICROWIRE™ | QS™ | SyncFET™ |
| EcoSPARK™ | GTO™ | MSX™ | QT Optoelectronics™ | TinyLogic® |
| E ² CMOS™ | HiSeC™ | MSXPro™ | Quiet Series™ | TINYOPTO™ |
| EnSigna™ | I ² C™ | OCX™ | RapidConfigure™ | TruTranslation™ |
| FACT™ | ImpliedDisconnect™ | OCXPro™ | RapidConnect™ | UHC™ |
| Across the board. Around the world.™ | OPTOLOGIC® | SILENT SWITCHER® | SMART START™ | UltraFET® |
| The Power Franchise™ | OPTOPLANAR™ | SPM™ | | VCX™ |
| Programmable Active Droop™ | PACMAN™ | | | |

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PRODUCT STATUS DEFINITIONS

Definition of Terms

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|--------------------------|------------------------|---|
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