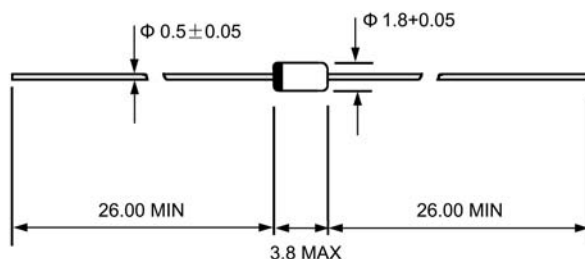




## Features

- ◇ Silicon planar power zener diodes
- ◇ Standard Zener voltage tolerance is  $\pm 5\%$ . With a "B" suffix. Other tolerances are available upon request.



## Mechanical Data

- ◇ Case: DO-35, Glass Case
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: Cathode Band
- ◇ Marking: Type Number
- ◇ Approx. Weight: 0.13 grams.

Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|                                                   | SYMBOL    | VALUE              | UNIT |
|---------------------------------------------------|-----------|--------------------|------|
| Zener current (see Table "Characteristics")       |           |                    |      |
| Power dissipation at $T_{amb}=25^{\circ}\text{C}$ | $P_{tot}$ | 500 <sup>(1)</sup> | mW   |
| Junction temperature                              | $T_J$     | 175                | °C   |
| Storage temperature range                         | $T_s$     | -55---+175         | °C   |

|                                        | SYMBOL          | MIN | TYP | MAX                | UNIT |
|----------------------------------------|-----------------|-----|-----|--------------------|------|
| Thermal resistance junction to ambient | $R_{\theta JA}$ | —   | —   | 300 <sup>(1)</sup> | °C/W |
| Forward voltage at $I_F=200\text{mA}$  | $V_F$           | —   | —   | 1.2                | V    |

NOTES: (1) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature.

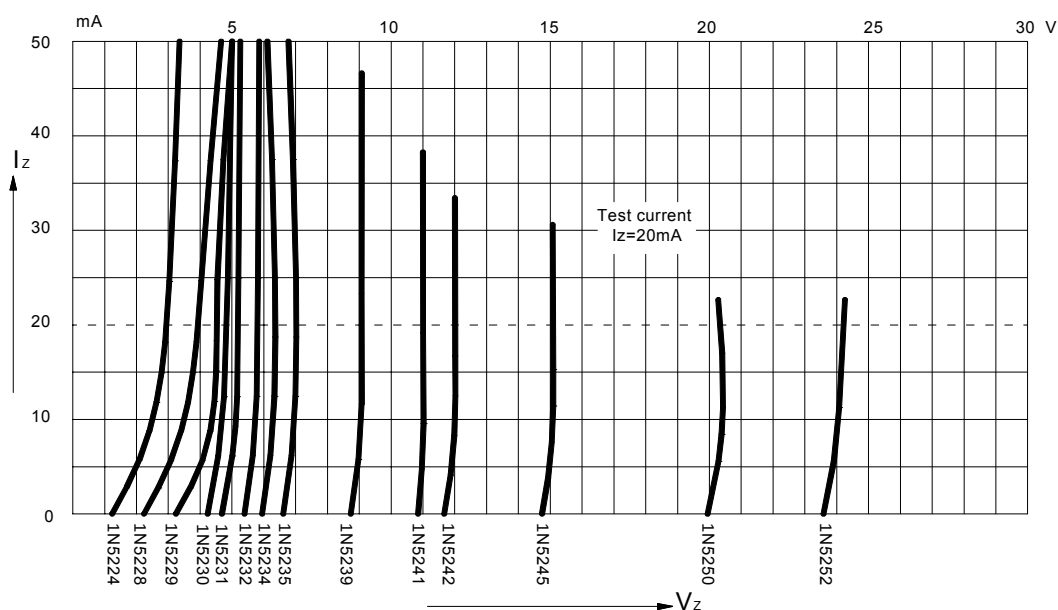
**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ )

| Type    | Nominal Zener Voltage <sup>1)</sup> | Test Current | Maximum Dynamic Impedance <sup>1)</sup> |                               | Typical Temperature of Coefficient | Maximum Reverse Leakage Current |       |
|---------|-------------------------------------|--------------|-----------------------------------------|-------------------------------|------------------------------------|---------------------------------|-------|
|         | $V_Z$                               | $I_{ZT}$     | $Z_{ZT}@I_{ZT}$                         | $Z_{ZK}@I_{ZK}=0.25\text{mA}$ | $\alpha V_Z@I_{ZT}$                | $I_{RM}$                        | $V_R$ |
|         | V                                   | mA           | $\Omega$                                | $\Omega$                      | %/ $^{\circ}\text{C}$              | $\mu\text{A}$                   | V     |
| 1N5221B | 2.4                                 | 20           | 30                                      | 1200                          | -0.085                             | 100                             | 1.0   |
| 1N5222B | 2.5                                 | 20           | 30                                      | 1250                          | -0.085                             | 100                             | 1.0   |
| 1N5223B | 2.7                                 | 20           | 30                                      | 1300                          | -0.080                             | 75                              | 1.0   |
| 1N5224B | 2.8                                 | 20           | 30                                      | 1400                          | -0.080                             | 75                              | 1.0   |
| 1N5225B | 3.0                                 | 20           | 29                                      | 1600                          | -0.075                             | 50                              | 1.0   |
| 1N5226B | 3.3                                 | 20           | 28                                      | 1600                          | -0.070                             | 25                              | 1.0   |
| 1N5227B | 3.6                                 | 20           | 24                                      | 1700                          | -0.065                             | 15                              | 1.0   |
| 1N5228B | 3.9                                 | 20           | 23                                      | 1900                          | -0.060                             | 10                              | 1.0   |
| 1N5229B | 4.3                                 | 20           | 22                                      | 2000                          | -0.055                             | 5.0                             | 1.0   |
| 1N5230B | 4.7                                 | 20           | 19                                      | 1900                          | + 0.030                            | 5.0                             | 2.0   |
| 1N5231B | 5.1                                 | 20           | 17                                      | 1600                          | + 0.030                            | 5.0                             | 2.0   |
| 1N5232B | 5.6                                 | 20           | 11                                      | 1600                          | + 0.038                            | 5.0                             | 3.0   |
| 1N5233B | 6.0                                 | 20           | 7.0                                     | 1600                          | + 0.038                            | 5.0                             | 3.5   |
| 1N5234B | 6.2                                 | 20           | 7.0                                     | 1000                          | + 0.045                            | 5.0                             | 4.0   |
| 1N5235B | 6.8                                 | 20           | 5.0                                     | 750                           | + 0.050                            | 3.0                             | 5.0   |
| 1N5236B | 7.5                                 | 20           | 6.0                                     | 500                           | + 0.058                            | 3.0                             | 6.0   |
| 1N5237B | 8.2                                 | 20           | 8.0                                     | 500                           | + 0.062                            | 3.0                             | 6.5   |
| 1N5238B | 8.7                                 | 20           | 8.0                                     | 600                           | + 0.065                            | 3.0                             | 6.5   |
| 1N5239B | 9.1                                 | 20           | 10                                      | 600                           | + 0.068                            | 3.0                             | 7.0   |
| 1N5240B | 10                                  | 20           | 17                                      | 600                           | + 0.075                            | 3.0                             | 8.0   |
| 1N5241B | 11                                  | 20           | 22                                      | 600                           | + 0.076                            | 2.0                             | 8.4   |
| 1N5242B | 12                                  | 20           | 30                                      | 600                           | + 0.077                            | 1.0                             | 9.1   |
| 1N5243B | 13                                  | 10           | 13                                      | 600                           | + 0.079                            | 0.5                             | 9.9   |
| 1N5244B | 14                                  | 9.0          | 15                                      | 600                           | + 0.082                            | 0.1                             | 10    |
| 1N5245B | 15                                  | 8.5          | 16                                      | 600                           | + 0.082                            | 0.1                             | 11    |
| 1N5246B | 16                                  | 7.8          | 17                                      | 600                           | + 0.083                            | 0.1                             | 12    |
| 1N5247B | 17                                  | 7.4          | 19                                      | 600                           | + 0.084                            | 0.1                             | 13    |
| 1N5248B | 18                                  | 7.0          | 21                                      | 600                           | + 0.085                            | 0.1                             | 14    |
| 1N5249B | 19                                  | 6.6          | 23                                      | 600                           | + 0.086                            | 0.1                             | 14    |
| 1N5250B | 20                                  | 6.2          | 25                                      | 600                           | + 0.086                            | 0.1                             | 15    |
| 1N5251B | 22                                  | 5.6          | 29                                      | 600                           | + 0.087                            | 0.1                             | 17    |
| 1N5252B | 24                                  | 5.2          | 33                                      | 600                           | + 0.087                            | 0.1                             | 18    |
| 1N5253B | 25                                  | 5.0          | 35                                      | 600                           | + 0.089                            | 0.1                             | 19    |
| 1N5254B | 27                                  | 4.6          | 41                                      | 600                           | + 0.090                            | 0.1                             | 21    |
| 1N5255B | 28                                  | 4.5          | 44                                      | 600                           | + 0.091                            | 0.1                             | 21    |
| 1N5256B | 30                                  | 4.2          | 49                                      | 600                           | + 0.091                            | 0.1                             | 23    |
| 1N5257B | 33                                  | 3.8          | 58                                      | 700                           | + 0.092                            | 0.1                             | 25    |
| 1N5258B | 36                                  | 3.4          | 70                                      | 700                           | + 0.093                            | 0.1                             | 27    |
| 1N5259B | 39                                  | 3.2          | 80                                      | 800                           | + 0.094                            | 0.1                             | 30    |
| 1N5260B | 43                                  | 3.0          | 93                                      | 900                           | + 0.095                            | 0.1                             | 33    |
| 1N5261B | 47                                  | 2.7          | 105                                     | 1000                          | + 0.095                            | 0.1                             | 36    |
| 1N5262B | 51                                  | 2.5          | 125                                     | 1100                          | + 0.096                            | 0.1                             | 39    |
| 1N5263B | 56                                  | 2.2          | 150                                     | 1300                          | + 0.096                            | 0.1                             | 43    |
| 1N5264B | 60                                  | 2.1          | 170                                     | 1400                          | + 0.097                            | 0.1                             | 46    |
| 1N5265B | 62                                  | 2.0          | 185                                     | 1400                          | + 0.097                            | 0.1                             | 47    |
| 1N5266B | 68                                  | 1.8          | 230                                     | 1600                          | + 0.097                            | 0.1                             | 52    |
| 1N5267B | 75                                  | 1.7          | 270                                     | 1700                          | + 0.098                            | 0.1                             | 56    |
| 1N5268B | 85                                  | 1.5          | 330                                     | 2000                          | + 0.098                            | 0.1                             | 62    |
| 1N5269B | 87                                  | 1.4          | 370                                     | 2200                          | + 0.099                            | 0.1                             | 68    |
| 1N5270B | 91                                  | 1.4          | 400                                     | 2300                          | + 0.099                            | 0.1                             | 69    |
| 1N5271B | 100                                 | 1.3          | 500                                     | 2600                          | + 0.099                            | 0.1                             | 76    |
| 1N5272B | 110                                 | 1.1          | 750                                     | 3000                          | + 0.11                             | 0.1                             | 84    |
| 1N5273B | 120                                 | 1.0          | 900                                     | 4000                          | + 0.11                             | 0.1                             | 91    |
| 1N5274B | 130                                 | 0.95         | 1100                                    | 4500                          | + 0.11                             | 0.1                             | 99    |
| 1N5275B | 140                                 | 0.90         | 1300                                    | 4500                          | + 0.11                             | 0.1                             | 106   |
| 1N5276B | 150                                 | 0.95         | 1500                                    | 5000                          | + 0.11                             | 0.1                             | 114   |
| 1N5277B | 160                                 | 0.80         | 1700                                    | 5500                          | + 0.11                             | 0.1                             | 122   |
| 1N5278B | 170                                 | 0.74         | 1900                                    | 5500                          | + 0.11                             | 0.1                             | 129   |
| 1N5279B | 180                                 | 0.68         | 2200                                    | 6000                          | + 0.11                             | 0.1                             | 137   |

<sup>1)</sup>Based on dc-measurement at thermal equilibrium; lead length=9.5(3/8"); thermal resistance of heat sink=30K/W

## Ratings AND Characteristic Curves

**FIG.1 – BREAKDOWN CHARACTERISTICS**



**FIG.2 – ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE**

