



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

1N5221B

THRU

1N5259B

**TECHNICAL SPECIFICATIONS OF GLASS SILICON ZENER DIODES**

**FEATURES**

- \* Voltage Range: 2.4V to 39V
- \* Double slug type construction

**MECHANICAL DATA**

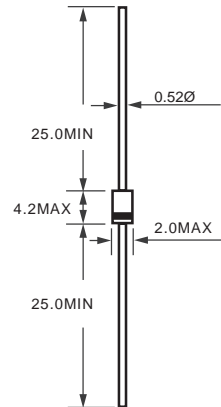
- \* Case: Glass sealed case
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.13 gram

**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 current by 20%.



DO-35



Dimensions in millimeters

|   | SYMBOL           | VALUE                        | UNITS                         |
|---|------------------|------------------------------|-------------------------------|
| Zener Current see Table "Characterisitics"    |                  |                              |                               |
| Power Dissipation at Tamb=25°C                | P <sub>tot</sub> | 500 <sup>(1)</sup>           | mW                            |
| Junction Temperature                          | T <sub>j</sub>   | 175                          | °C                            |
| Storage Temperature Range                     | T <sub>stg</sub> | -55 to + 175                 | °C                            |
| Thermal Resistance<br>Junction to Ambient Air | R <sub>thA</sub> | -<br>-<br>0.3 <sup>(1)</sup> | K/mW<br>Typ.<br>Min.<br>Max.  |
| Forward Voltage<br>at I <sub>F</sub> =100mA   | V <sub>F</sub>   | -<br>-<br>1                  | Volts<br>Typ.<br>Min.<br>Max. |

1)Valid Provided that leads are kept at ambient temperature at a distance of 8 mm from case.

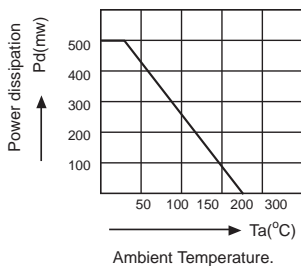
NOTE: Suffix "B" indicates Zener Voltage Tolerance ± 5%

RATING AND CHARACTERISTIC CURVES (1N5221B THRU 1N5259B)

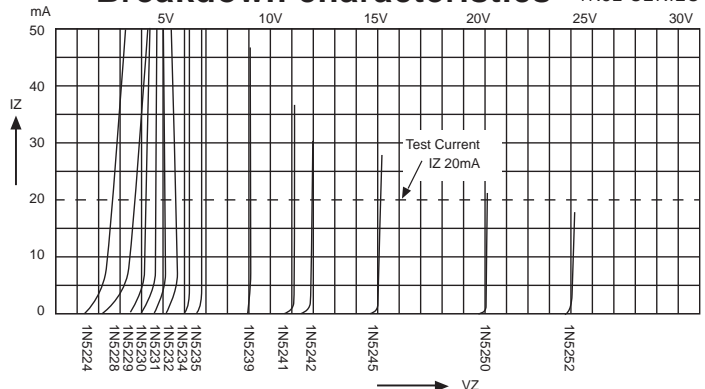
| TYPE    | Nominal Zener Voltage<br>VZ@IZT | Zener Test Current<br>IZT | Maximum Zener Impedance |            | Typical Temperature Coefficient<br>%/ °C | Maximum Reverse Leakage Current |       | Maximum Regulator Current<br>IZM |
|---------|---------------------------------|---------------------------|-------------------------|------------|--|---------------------------------|-------|----------------------------------|
|         |                                 |                           | ZZT@IZT                 | ZZT@IZK(*) |  | IR                              | @VR   |                                  |
|         | Volts                           | mA                        | Ohms                    | Ohms.      | % / °C                                   | uA                              | Volts | mA                               |
| 1N5221B | 2.4                             | 20                        | 30                      | 1200       | -0.085                                   | 100                             | 1.0   | 191                              |
| 1N5222B | 2.5                             | 20                        | 30                      | 1250       | -0.085                                   | 100                             | 1.0   | 182                              |
| 1N5223B | 2.7                             | 20                        | 30                      | 1300       | -0.080                                   | 75                              | 1.0   | 168                              |
| 1N5224B | 2.8                             | 20                        | 30                      | 1400       | -0.080                                   | 75                              | 1.0   | 162                              |
| 1N5225B | 3.0                             | 20                        | 29                      | 1600       | +0.075                                   | 50                              | 1.0   | 151                              |
| 1N5226B | 3.3                             | 20                        | 28                      | 1600       | -0.070                                   | 25                              | 1.0   | 138                              |
| 1N5227B | 3.6                             | 20                        | 24                      | 1700       | -0.065                                   | 15                              | 1.0   | 126                              |
| 1N5228B | 3.9                             | 20                        | 23                      | 1900       | -0.060                                   | 10                              | 1.0   | 115                              |
| 1N5229B | 4.3                             | 20                        | 22                      | 2000       | ±0.055                                   | 5.0                             | 1.0   | 106                              |
| 1N5230B | 4.7                             | 20                        | 19                      | 1900       | ±0.030                                   | 5.0                             | 2.0   | 97                               |
| 1N5231B | 5.1                             | 20                        | 17                      | 1600       | ±0.030                                   | 5.0                             | 2.0   | 89                               |
| 1N5232B | 5.6                             | 20                        | 11                      | 1600       | +0.038                                   | 5.0                             | 3.0   | 81                               |
| 1N5233B | 6.0                             | 20                        | 7                       | 1600       | +0.038                                   | 5.0                             | 3.5   | 76                               |
| 1N5234B | 6.2                             | 20                        | 7                       | 1000       | +0.045                                   | 5.0                             | 4.0   | 73                               |
| 1N5235B | 6.8                             | 20                        | 5                       | 750        | +0.050                                   | 3.0                             | 5.0   | 67                               |
| 1N5236B | 7.5                             | 20                        | 6                       | 500        | +0.058                                   | 3.0                             | 6.0   | 61                               |
| 1N5237B | 8.2                             | 20                        | 8                       | 500        | +0.062                                   | 3.0                             | 6.5   | 55                               |
| 1N5238B | 8.7                             | 20                        | 8                       | 600        | +0.065                                   | 3.0                             | 6.5   | 52                               |
| 1N5239B | 9.1                             | 20                        | 10                      | 600        | +0.068                                   | 3.0                             | 7.0   | 50                               |
| 1N5240B | 10                              | 20                        | 17                      | 600        | +0.075                                   | 3.0                             | 8.0   | 45                               |
| 1N5241B | 11                              | 20                        | 22                      | 600        | +0.076                                   | 2.0                             | 8.4   | 41                               |
| 1N5242B | 12                              | 20                        | 30                      | 600        | +0.077                                   | 1.0                             | 9.1   | 38                               |
| 1N5243B | 13                              | 9.5                       | 13                      | 600        | +0.079                                   | 0.5                             | 9.9   | 35                               |
| 1N5244B | 14                              | 9.0                       | 15                      | 600        | +0.082                                   | 0.1                             | 10    | 32                               |
| 1N5245B | 15                              | 8.5                       | 16                      | 600        | +0.082                                   | 0.1                             | 11    | 30                               |
| 1N5246B | 16                              | 7.8                       | 17                      | 600        | +0.083                                   | 0.1                             | 12    | 28                               |
| 1N5247B | 17                              | 7.4                       | 19                      | 600        | +0.084                                   | 0.1                             | 13    | 27                               |
| 1N5248B | 18                              | 7.0                       | 21                      | 600        | +0.085                                   | 0.1                             | 14    | 25                               |
| 1N5249B | 19                              | 6.6                       | 23                      | 600        | +0.085                                   | 0.1                             | 14    | 24                               |
| 1N5250B | 20                              | 6.2                       | 25                      | 600        | +0.086                                   | 0.1                             | 15    | 23                               |
| 1N5251B | 22                              | 5.6                       | 29                      | 600        | +0.087                                   | 0.1                             | 17    | 21.2                             |
| 1N5252B | 24                              | 5.2                       | 33                      | 600        | +0.088                                   | 0.1                             | 18    | 19.1                             |
| 1N5253B | 25                              | 5.0                       | 35                      | 600        | +0.089                                   | 0.1                             | 19    | 18.2                             |
| 1N5254B | 27                              | 4.6                       | 41                      | 600        | +0.090                                   | 0.1                             | 21    | 16.8                             |
| 1N5255B | 28                              | 4.5                       | 44                      | 600        | +0.091                                   | 0.1                             | 21    | 16.2                             |
| 1N5256B | 30                              | 4.2                       | 49                      | 600        | +0.091                                   | 0.1                             | 23    | 15.1                             |
| 1N5257B | 33                              | 3.8                       | 58                      | 700        | +0.092                                   | 0.1                             | 25    | 13.8                             |
| 1N5258B | 36                              | 3.4                       | 70                      | 700        | +0.093                                   | 0.1                             | 27    | 12.6                             |
| 1N5259B | 39                              | 3.2                       | 80                      | 800        | +0.094                                   | 0.1                             | 30    | 11.5                             |

(\*) Izk=0.25mA

changes in the power dissipation due to the ambient temperature.



Breakdown characteristics



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