

1N5221B THRU 1N5278B

**SILICON ZENER DIODES**  
**500mW, 2.4 THRU 170 VOLT**  
**5% TOLERANCE**



**DO-35 CASE**



[www.centralemi.com](http://www.centralemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 1N5221B series silicon Zener diodes are highly reliable voltage regulators designed for use in industrial, commercial, entertainment and computer applications.

**MAXIMUM RATINGS:** ( $T_L = 75^\circ\text{C}$ )

Power Dissipation

Operating and Storage Junction Temperature

$V_Z$  Tolerance: Part number with "B" suffix

$V_Z$  Tolerance: Part number with "C" suffix

$V_Z$  Tolerance: Part number with "D" suffix

**SYMBOL**

$P_D$

$T_J, T_{stg}$

500

-65 to +200

$\pm 5$

$\pm 2$

$\pm 1$

**UNITS**

mW

$^\circ\text{C}$

%

%

%

**ELECTRICAL CHARACTERISTICS:** ( $T_A = 25^\circ\text{C}$ )  $V_F = 1.1\text{V MAX @ } I_F = 200\text{mA}$  (for all types)

| TYPE    | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ |     |       | TEST CURRENT | MAXIMUM ZENER IMPEDANCE |                   |               | MAXIMUM REVERSE CURRENT |     | MAXIMUM TEMPERATURE COEFFICIENT |
|---------|---------------------------------|-----|-------|--------------|-------------------------|-------------------|---------------|-------------------------|-----|---------------------------------|
|         | MIN                             | NOM | MAX   | $I_{ZT}$     | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_R @ V_R$   |                         |     | $\ominus V_Z$                   |
|         | V                               | V   | V     | mA           | $\Omega$                | $\Omega$          | $\mu\text{A}$ | V                       |     | $\%/^\circ\text{C}$             |
| 1N5221B | 2.280                           | 2.4 | 2.520 | 20           | 30                      | 1200              | 0.25          | 100                     | 1.0 | -0.085                          |
| 1N5222B | 2.375                           | 2.5 | 2.625 | 20           | 30                      | 1250              | 0.25          | 100                     | 1.0 | -0.085                          |
| 1N5223B | 2.565                           | 2.7 | 2.835 | 20           | 30                      | 1300              | 0.25          | 75                      | 1.0 | -0.080                          |
| 1N5224B | 2.660                           | 2.8 | 2.940 | 20           | 30                      | 1400              | 0.25          | 75                      | 1.0 | -0.080                          |
| 1N5225B | 2.850                           | 3.0 | 3.150 | 20           | 29                      | 1600              | 0.25          | 50                      | 1.0 | -0.075                          |
| 1N5226B | 3.135                           | 3.3 | 3.465 | 20           | 28                      | 1600              | 0.25          | 25                      | 1.0 | -0.070                          |
| 1N5227B | 3.420                           | 3.6 | 3.780 | 20           | 24                      | 1700              | 0.25          | 15                      | 1.0 | -0.065                          |
| 1N5228B | 3.705                           | 3.9 | 4.095 | 20           | 23                      | 1900              | 0.25          | 10                      | 1.0 | -0.060                          |
| 1N5229B | 4.085                           | 4.3 | 4.515 | 20           | 22                      | 2000              | 0.25          | 5.0                     | 1.0 | $\pm 0.055$                     |
| 1N5230B | 4.465                           | 4.7 | 4.935 | 20           | 19                      | 1900              | 0.25          | 5.0                     | 2.0 | $\pm 0.030$                     |
| 1N5231B | 4.845                           | 5.1 | 5.355 | 20           | 17                      | 1600              | 0.25          | 5.0                     | 2.0 | $\pm 0.030$                     |
| 1N5232B | 5.320                           | 5.6 | 5.880 | 20           | 11                      | 1600              | 0.25          | 5.0                     | 3.0 | +0.038                          |
| 1N5233B | 5.700                           | 6.0 | 6.300 | 20           | 7.0                     | 1600              | 0.25          | 5.0                     | 3.5 | +0.038                          |
| 1N5234B | 5.890                           | 6.2 | 6.510 | 20           | 7.0                     | 1000              | 0.25          | 5.0                     | 4.0 | +0.045                          |
| 1N5235B | 6.460                           | 6.8 | 7.140 | 20           | 5.0                     | 750               | 0.25          | 3.0                     | 5.0 | +0.050                          |
| 1N5236B | 7.125                           | 7.5 | 7.875 | 20           | 6.0                     | 500               | 0.25          | 3.0                     | 6.0 | +0.058                          |
| 1N5237B | 7.790                           | 8.2 | 8.610 | 20           | 8.0                     | 500               | 0.25          | 3.0                     | 6.5 | +0.062                          |
| 1N5238B | 8.265                           | 8.7 | 9.135 | 20           | 8.0                     | 600               | 0.25          | 3.0                     | 6.5 | +0.065                          |
| 1N5239B | 8.645                           | 9.1 | 9.555 | 20           | 10                      | 600               | 0.25          | 3.0                     | 7.0 | +0.068                          |
| 1N5240B | 9.500                           | 10  | 10.50 | 20           | 17                      | 600               | 0.25          | 3.0                     | 8.0 | +0.075                          |
| 1N5241B | 10.45                           | 11  | 11.55 | 20           | 22                      | 600               | 0.25          | 2.0                     | 8.4 | +0.076                          |
| 1N5242B | 11.40                           | 12  | 12.60 | 20           | 30                      | 600               | 0.25          | 1.0                     | 9.1 | +0.077                          |
| 1N5243B | 12.35                           | 13  | 13.65 | 9.5          | 13                      | 600               | 0.25          | 0.5                     | 9.9 | +0.079                          |
| 1N5244B | 13.30                           | 14  | 14.70 | 9.0          | 15                      | 600               | 0.25          | 0.1                     | 10  | +0.082                          |
| 1N5245B | 14.25                           | 15  | 15.75 | 8.5          | 16                      | 600               | 0.25          | 0.1                     | 11  | +0.082                          |
| 1N5246B | 15.20                           | 16  | 16.80 | 7.8          | 17                      | 600               | 0.25          | 0.1                     | 12  | +0.083                          |

R3 (11-September 2013)

1N5221B THRU 1N5278B

SILICON ZENER DIODES  
500mW, 2.4 THRU 170 VOLT  
5% TOLERANCE



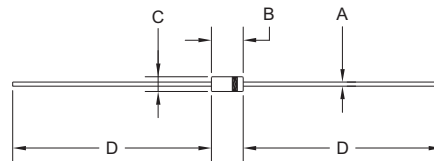
ELECTRICAL CHARACTERISTICS - Continued: ( $T_A=25^\circ\text{C}$ )  $V_F=1.1\text{V MAX}$  @  $I_F=200\text{mA}$  (for all types)

| TYPE    | ZENER VOLTAGE<br>$V_Z$ @ $I_{ZT}$ |     |       | TEST CURRENT<br>$I_{ZT}$<br>mA | MAXIMUM ZENER IMPEDANCE |                     |      | MAXIMUM REVERSE CURRENT |     | MAXIMUM TEMPERATURE COEFFICIENT<br>$\Theta V_Z$<br>%/°C |
|---------|-----------------------------------|-----|-------|--------------------------------|-------------------------|---------------------|------|-------------------------|-----|---------------------------------------------------------|
|         | MIN                               | NOM | MAX   |                                | $Z_{ZT}$ @ $I_{ZT}$     | $Z_{ZK}$ @ $I_{ZK}$ |      | $I_R$ @ $V_R$           |     |                                                         |
|         | V                                 | V   | V     |                                | $\Omega$                | $\Omega$            | mA   | $\mu\text{A}$           | V   |                                                         |
| 1N5247B | 16.15                             | 17  | 17.85 | 7.4                            | 19                      | 600                 | 0.25 | 0.1                     | 13  | +0.084                                                  |
| 1N5248B | 17.10                             | 18  | 18.90 | 7.0                            | 21                      | 600                 | 0.25 | 0.1                     | 14  | +0.085                                                  |
| 1N5249B | 18.05                             | 19  | 19.95 | 6.6                            | 23                      | 600                 | 0.25 | 0.1                     | 14  | +0.086                                                  |
| 1N5250B | 19.00                             | 20  | 21.00 | 6.2                            | 25                      | 600                 | 0.25 | 0.1                     | 15  | +0.086                                                  |
| 1N5251B | 20.90                             | 22  | 23.10 | 5.6                            | 29                      | 600                 | 0.25 | 0.1                     | 17  | +0.087                                                  |
| 1N5252B | 22.80                             | 24  | 25.20 | 5.2                            | 33                      | 600                 | 0.25 | 0.1                     | 18  | +0.088                                                  |
| 1N5253B | 23.75                             | 25  | 26.25 | 5.0                            | 35                      | 600                 | 0.25 | 0.1                     | 19  | +0.089                                                  |
| 1N5254B | 25.65                             | 27  | 28.35 | 4.6                            | 41                      | 600                 | 0.25 | 0.1                     | 21  | +0.090                                                  |
| 1N5255B | 26.60                             | 28  | 29.40 | 4.5                            | 44                      | 600                 | 0.25 | 0.1                     | 21  | +0.091                                                  |
| 1N5256B | 28.50                             | 30  | 31.50 | 4.2                            | 49                      | 600                 | 0.25 | 0.1                     | 23  | +0.091                                                  |
| 1N5257B | 31.35                             | 33  | 34.65 | 3.8                            | 58                      | 700                 | 0.25 | 0.1                     | 25  | +0.092                                                  |
| 1N5258B | 34.20                             | 36  | 37.80 | 3.4                            | 70                      | 700                 | 0.25 | 0.1                     | 27  | +0.093                                                  |
| 1N5259B | 37.05                             | 39  | 40.95 | 3.2                            | 80                      | 800                 | 0.25 | 0.1                     | 30  | +0.094                                                  |
| 1N5260B | 40.85                             | 43  | 45.15 | 3.0                            | 93                      | 900                 | 0.25 | 0.1                     | 33  | +0.095                                                  |
| 1N5261B | 44.65                             | 47  | 49.35 | 2.7                            | 105                     | 1000                | 0.25 | 0.1                     | 36  | +0.095                                                  |
| 1N5262B | 48.45                             | 51  | 53.55 | 2.5                            | 125                     | 1100                | 0.25 | 0.1                     | 39  | +0.096                                                  |
| 1N5263B | 53.20                             | 56  | 58.80 | 2.2                            | 150                     | 1300                | 0.25 | 0.1                     | 43  | +0.096                                                  |
| 1N5264B | 57.00                             | 60  | 63.00 | 2.1                            | 170                     | 1400                | 0.25 | 0.1                     | 46  | +0.097                                                  |
| 1N5265B | 58.90                             | 62  | 65.10 | 2.0                            | 185                     | 1400                | 0.25 | 0.1                     | 47  | +0.097                                                  |
| 1N5266B | 64.60                             | 68  | 71.40 | 1.8                            | 230                     | 1600                | 0.25 | 0.1                     | 52  | +0.097                                                  |
| 1N5267B | 71.25                             | 75  | 78.75 | 1.7                            | 270                     | 1700                | 0.25 | 0.1                     | 56  | +0.098                                                  |
| 1N5268B | 77.90                             | 82  | 86.10 | 1.5                            | 330                     | 2000                | 0.25 | 0.1                     | 62  | +0.098                                                  |
| 1N5269B | 82.65                             | 87  | 91.35 | 1.4                            | 370                     | 2200                | 0.25 | 0.1                     | 68  | +0.099                                                  |
| 1N5270B | 86.45                             | 91  | 95.55 | 1.4                            | 400                     | 2300                | 0.25 | 0.1                     | 69  | +0.099                                                  |
| 1N5271B | 95.00                             | 100 | 105.0 | 1.3                            | 500                     | 2600                | 0.25 | 0.1                     | 76  | +0.110                                                  |
| 1N5272B | 104.5                             | 110 | 115.5 | 1.1                            | 750                     | 3000                | 0.25 | 0.1                     | 84  | +0.110                                                  |
| 1N5273B | 114.0                             | 120 | 126.0 | 1.0                            | 900                     | 4000                | 0.25 | 0.1                     | 91  | +0.110                                                  |
| 1N5274B | 123.5                             | 130 | 136.5 | 0.95                           | 1100                    | 4500                | 0.25 | 0.1                     | 99  | +0.110                                                  |
| 1N5275B | 133.0                             | 140 | 147.0 | 0.90                           | 1300                    | 4500                | 0.25 | 0.1                     | 106 | +0.110                                                  |
| 1N5276B | 142.5                             | 150 | 157.5 | 0.85                           | 1500                    | 5000                | 0.25 | 0.1                     | 114 | +0.110                                                  |
| 1N5277B | 152.0                             | 160 | 168.0 | 0.80                           | 1700                    | 5500                | 0.25 | 0.1                     | 122 | +0.110                                                  |
| 1N5278B | 161.5                             | 170 | 178.5 | 0.74                           | 1900                    | 5500                | 0.25 | 0.1                     | 129 | +0.110                                                  |

#### DO-35 CASE - MECHANICAL OUTLINE

| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.018      | 0.022 | 0.46        | 0.56 |
| B      | 0.120      | 0.200 | 3.05        | 5.08 |
| C      | 0.060      | 0.090 | 1.52        | 2.29 |
| D      | 1.000      | -     | 25.40       | -    |

DO-35 (REV: R1)



R3 (11-September 2013)

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9