

# Central<sup>TM</sup>

## Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

www.centralsemi.com

1N3305B THRU 1N3350B

50W ZENER DIODE  
6.8 VOLTS THRU 200 VOLTS  
5% TOLERANCE

DO-5 CASE

### DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1N3305B Series types are Silicon Zener Diodes, manufactured in a hermetically sealed metal case, designed for high reliability industrial applications. Also available in reverse polarity connection (replace "B" suffix with "RB" suffix in part number - ex: 1N3305RB).

### ABSOLUTE MAXIMUM RATINGS:

Power Dissipation (@T<sub>C</sub>=75°C)  
Operating and Storage Temperature

### SYMBOL

P<sub>D</sub>  
T<sub>J</sub>, T<sub>stg</sub>

50

-65 to +175

### UNITS

W  
°C

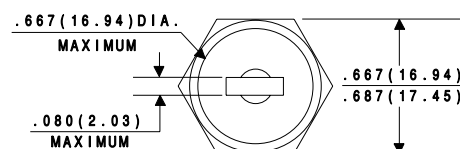
**ELECTRICAL CHARACTERISTICS:** (T<sub>C</sub>=30°C), V<sub>F</sub>=1.5V MAX @ I<sub>F</sub>=10A FOR ALL TYPES.

| Type No. | Zener Voltage<br>V <sub>Z</sub> @ I <sub>ZT</sub> |       |       | Test Current | Maximum Zener Impedance |                                  |                                   | Maximum Reverse Current         |                 | Maximum DC Zener Current<br>@ T <sub>C</sub> =75°C | Typical Zener Voltage Temperature Coefficient |
|----------|---------------------------------------------------|-------|-------|--------------|-------------------------|----------------------------------|-----------------------------------|---------------------------------|-----------------|----------------------------------------------------|-----------------------------------------------|
|          | MIN                                               | NOM   | MAX   |              | I <sub>ZT</sub>         | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> | I <sub>ZM</sub> |                                                    |                                               |
|          | Volts                                             | Volts | Volts |              | mA                      | Ω                                | Ω                                 | mA                              | μA              |                                                    | Volts                                         |
| 1N3305B  | 6.460                                             | 6.8   | 7.140 | 1850         | 0.2                     | 70                               | 5.0                               | 150                             | 4.5             | 6600                                               | .040                                          |
| 1N3306B  | 7.125                                             | 7.5   | 7.875 | 1700         | 0.3                     | 70                               | 5.0                               | 75                              | 5.0             | 5900                                               | .045                                          |
| 1N3307B  | 7.790                                             | 8.2   | 8.610 | 1500         | 0.4                     | 70                               | 5.0                               | 50                              | 5.4             | 5200                                               | .048                                          |
| 1N3308B  | 8.645                                             | 9.1   | 9.555 | 1370         | 0.5                     | 70                               | 5.0                               | 25                              | 6.1             | 4800                                               | .051                                          |
| 1N3309B  | 9.500                                             | 10    | 10.50 | 1200         | 0.6                     | 80                               | 5.0                               | 10                              | 6.7             | 4300                                               | .055                                          |
| 1N3310B  | 10.45                                             | 11    | 11.55 | 1100         | 0.8                     | 80                               | 5.0                               | 5.0                             | 8.4             | 3900                                               | .060                                          |
| 1N3311B  | 11.40                                             | 12    | 12.60 | 1000         | 1.0                     | 80                               | 5.0                               | 5.0                             | 9.1             | 3600                                               | .065                                          |
| 1N3312B  | 12.35                                             | 13    | 13.65 | 960          | 1.1                     | 80                               | 5.0                               | 5.0                             | 9.9             | 3300                                               | .065                                          |
| 1N3313B  | 13.30                                             | 14    | 14.70 | 890          | 1.2                     | 80                               | 5.0                               | 5.0                             | 10.6            | 3000                                               | .070                                          |
| 1N3314B  | 14.25                                             | 15    | 15.75 | 830          | 1.4                     | 80                               | 5.0                               | 5.0                             | 11.4            | 2800                                               | .070                                          |
| 1N3315B  | 15.20                                             | 16    | 16.80 | 780          | 1.6                     | 80                               | 5.0                               | 5.0                             | 12.2            | 2650                                               | .070                                          |
| 1N3316B  | 16.15                                             | 17    | 17.85 | 740          | 1.8                     | 80                               | 5.0                               | 5.0                             | 13.0            | 2500                                               | .075                                          |
| 1N3317B  | 17.10                                             | 18    | 18.90 | 700          | 2.0                     | 80                               | 5.0                               | 5.0                             | 13.7            | 2300                                               | .075                                          |
| 1N3318B  | 18.05                                             | 19    | 19.95 | 660          | 2.2                     | 80                               | 5.0                               | 5.0                             | 14.4            | 2200                                               | .075                                          |
| 1N3319B  | 19.00                                             | 20    | 21.00 | 630          | 2.4                     | 80                               | 5.0                               | 5.0                             | 15.2            | 2100                                               | .075                                          |
| 1N3320B  | 20.90                                             | 22    | 23.10 | 570          | 2.5                     | 80                               | 5.0                               | 5.0                             | 16.7            | 1900                                               | .080                                          |
| 1N3321B  | 22.80                                             | 24    | 25.20 | 520          | 2.6                     | 80                               | 5.0                               | 5.0                             | 18.2            | 1750                                               | .080                                          |
| 1N3322B  | 23.75                                             | 25    | 26.25 | 500          | 2.7                     | 90                               | 5.0                               | 5.0                             | 19.0            | 1550                                               | .080                                          |
| 1N3323B  | 25.65                                             | 27    | 28.35 | 460          | 2.8                     | 90                               | 5.0                               | 5.0                             | 20.6            | 1500                                               | .085                                          |
| 1N3324B  | 28.50                                             | 30    | 31.50 | 420          | 3.0                     | 90                               | 5.0                               | 5.0                             | 22.8            | 1400                                               | .085                                          |
| 1N3325B  | 31.35                                             | 33    | 34.65 | 380          | 3.2                     | 90                               | 5.0                               | 5.0                             | 25.1            | 1300                                               | .085                                          |
| 1N3326B  | 34.20                                             | 36    | 37.80 | 350          | 3.5                     | 90                               | 5.0                               | 5.0                             | 27.4            | 1150                                               | .085                                          |
| 1N3327B  | 37.05                                             | 39    | 40.95 | 320          | 4.0                     | 90                               | 5.0                               | 5.0                             | 29.7            | 1050                                               | .090                                          |
| 1N3328B  | 40.85                                             | 43    | 45.15 | 290          | 4.5                     | 90                               | 5.0                               | 5.0                             | 32.7            | 975                                                | .090                                          |
| 1N3329B  | 42.75                                             | 45    | 47.25 | 280          | 4.5                     | 100                              | 5.0                               | 5.0                             | 34.2            | 930                                                | .090                                          |
| 1N3330B  | 44.65                                             | 47    | 49.35 | 270          | 5.0                     | 100                              | 5.0                               | 5.0                             | 35.8            | 880                                                | .090                                          |

ELECTRICAL CHARACTERISTICS: ( $T_C=30^\circ\text{C}$ ),  $V_F=1.5\text{V MAX @ } I_F=10\text{A}$  FOR ALL TYPES.

| Type No. | Zener Voltage<br>V <sub>Z</sub> @ I <sub>ZT</sub> |       |        | Test Current | Maximum Zener Impedance |                                  |                                   | Maximum Reverse Current         |       | Maximum DC Zener Current<br>@ T <sub>C</sub> =75°C | Typical Zener Voltage Temperature Coefficient |
|----------|---------------------------------------------------|-------|--------|--------------|-------------------------|----------------------------------|-----------------------------------|---------------------------------|-------|----------------------------------------------------|-----------------------------------------------|
|          | MIN                                               | NOM   | MAX    |              | I <sub>ZT</sub>         | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |       |                                                    |                                               |
|          | Volts                                             | Volts | Volts  |              | mA                      | Ω                                | Ω                                 | mA                              | μA    |                                                    |                                               |
| 1N3331B  | 47.50                                             | 50    | 52.50  | 250          | 5.0                     | 100                              | 5.0                               | 5.0                             | 38.0  | 830                                                | .090                                          |
| 1N3332B  | 48.45                                             | 51    | 53.55  | 245          | 5.2                     | 100                              | 5.0                               | 5.0                             | 38.8  | 810                                                | .090                                          |
| 1N3333B  | 49.40                                             | 52    | 54.60  | 240          | 5.5                     | 100                              | 5.0                               | 5.0                             | 39.5  | 790                                                | .090                                          |
| 1N3334B  | 53.20                                             | 56    | 58.80  | 220          | 6.0                     | 110                              | 5.0                               | 5.0                             | 42.6  | 740                                                | .090                                          |
| 1N3335B  | 58.90                                             | 62    | 65.10  | 200          | 7.0                     | 120                              | 5.0                               | 5.0                             | 47.1  | 660                                                | .090                                          |
| 1N3336B  | 64.60                                             | 68    | 71.40  | 180          | 8.0                     | 140                              | 5.0                               | 5.0                             | 51.7  | 600                                                | .090                                          |
| 1N3337B  | 71.25                                             | 75    | 78.75  | 170          | 9.0                     | 150                              | 5.0                               | 5.0                             | 56.0  | 540                                                | .090                                          |
| 1N3338B  | 77.90                                             | 82    | 86.10  | 150          | 11                      | 160                              | 5.0                               | 5.0                             | 62.2  | 490                                                | .090                                          |
| 1N3339B  | 86.45                                             | 91    | 95.55  | 140          | 15                      | 180                              | 5.0                               | 5.0                             | 69.2  | 420                                                | .090                                          |
| 1N3340B  | 95.00                                             | 100   | 105.00 | 120          | 20                      | 200                              | 5.0                               | 5.0                             | 76.0  | 400                                                | .090                                          |
| 1N3341B  | 99.75                                             | 105   | 110.25 | 120          | 25                      | 210                              | 5.0                               | 5.0                             | 79.8  | 380                                                | .095                                          |
| 1N3342B  | 104.50                                            | 110   | 115.50 | 110          | 30                      | 220                              | 5.0                               | 5.0                             | 83.6  | 365                                                | .095                                          |
| 1N3343B  | 114.00                                            | 120   | 126.00 | 100          | 40                      | 240                              | 5.0                               | 5.0                             | 91.2  | 335                                                | .095                                          |
| 1N3344B  | 123.50                                            | 130   | 136.50 | 95           | 50                      | 275                              | 5.0                               | 5.0                             | 98.8  | 310                                                | .095                                          |
| 1N3345B  | 133.00                                            | 140   | 147.00 | 90           | 60                      | 325                              | 5.0                               | 5.0                             | 106.4 | 290                                                | .095                                          |
| 1N3346B  | 142.50                                            | 150   | 157.50 | 85           | 75                      | 400                              | 5.0                               | 5.0                             | 114.0 | 270                                                | .095                                          |
| 1N3347B  | 152.00                                            | 160   | 168.00 | 80           | 80                      | 450                              | 5.0                               | 5.0                             | 121.6 | 250                                                | .095                                          |
| 1N3348B  | 166.25                                            | 175   | 183.75 | 70           | 85                      | 500                              | 5.0                               | 5.0                             | 133.0 | 230                                                | .095                                          |
| 1N3349B  | 171.00                                            | 180   | 189.00 | 68           | 90                      | 525                              | 5.0                               | 5.0                             | 136.8 | 220                                                | .095                                          |
| 1N3350B  | 190.00                                            | 200   | 210.00 | 65           | 100                     | 600                              | 5.0                               | 5.0                             | 152.0 | 200                                                | .100                                          |

### DO-5 MECHANICAL OUTLINE

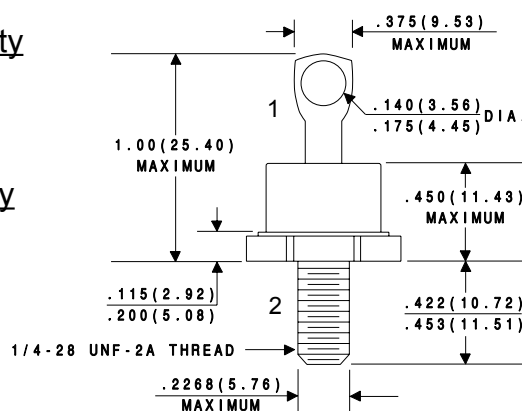


#### Standard Polarity

- 1) Cathode
- 2) Anode

#### Reverse Polarity

- 1) Anode
- 2) Cathode



All Dimensions in Inches (mm).