

# 1N5926B THRU 1N5956B

## GLASS PASSIVATED JUNCTION SILICON ZENER DIODE VOLTAGE - 11 TO 200 Volts    Power - 1.5 Watts

### FEATURES

- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Typical  $I_R$  less than 1  $\mu$ A above 11V
- High temperature soldering :  
260  $^{\circ}$ C/10 seconds at terminals
- Plastic package has Underwriters Laboratory  
Flammability Classification 94V-O

### MECHANICAL DATA

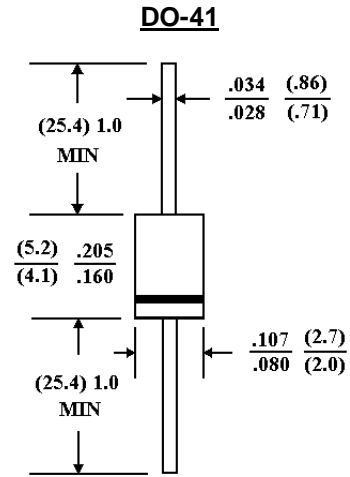
Case: JEDEC DO-41 Molded plastic over passivated junction

Terminals: Solder plated, solderable per MIL-STD-750,  
method 2026

Polarity: Color band denotes positive end (cathode)

Standard Packaging: 52mm tape

Weight: 0.012 ounce, 0.3 gram



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25  $^{\circ}$ C ambient temperature unless otherwise specified.

|  | SYMBOL         | VALUE       | UNITS                     |
|--|----------------|-------------|---------------------------|
| DC Power Dissipation @ $T_L=75^{\circ}$ C, Measure at Zero Lead Length(Note 1, Fig. 1)<br>Derate above 75 $^{\circ}$ C | $P_D$          | 1.5<br>15   | Watts<br>mW/ $^{\circ}$ C |
| Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note 1,2)             | $I_{FSM}$      | 10          | Amps                      |
| Operating Junction and Storage Temperature Range   | $T_J, T_{STG}$ | -55 to +150 | $^{\circ}$ C              |

### NOTES:

1. Mounted on 5.0mm<sup>2</sup>(.013mm thick) land areas.
2. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. ZENER VOLTAGE ( $V_Z$ ) MEASUREMENT Nominal zener voltage is measured with the device function in thermal equilibrium with ambient temperature at 25  $^{\circ}$ C.
4. ZENER IMPEDANCE ( $Z_Z$ ) DERIVATION  $Z_{ZT}$  are measured by dividing the ac voltage drop across the device by the ac current applied. The specified limits are for  $I_{Z(ac)} = 0.1 I_Z$ , (dc) with the ac frequency = 60Hz.

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| ELECTRICAL CHARACTERISTICS (T <sub>L</sub> =30 °C unless otherwise noted) (V <sub>F</sub> =1.5Volts Max @ I <sub>F</sub> =200mA) |  |                                 |  |  |                    |                             |                        |   |
|--|--|---------------------------------|--|--|--------------------|-----------------------------|------------------------|---|
| Device   | Nominal Zener Voltage V <sub>Z</sub> @ I <sub>ZT</sub> volts (Note 1.) | Test current I <sub>ZT</sub> mA | Maximum Zener Impedance (Note 2.)      |  |                    | Max reverse Leakage Current |                        | Maximum DC Zener Current I <sub>ZM</sub> mAdc |
|  |  |                                 | Z <sub>ZT</sub> @ I <sub>ZT</sub> Ohms | Z <sub>ZK</sub> @ I <sub>ZK</sub> Ohms | I <sub>ZK</sub> mA | I <sub>R</sub> Eg A         | V <sub>R</sub> @ Volts |   |
| 1N5926B  | 11   | 34.1                            | 5.5                                    | 550                                    | 0.25               | 1                           | 8.4                    | 136   |
| 1N5927B  | 12   | 31.2                            | 6.5                                    | 550                                    | 0.25               | 1                           | 9.1                    | 125   |
| 1N5928B  | 13   | 28.8                            | 7                                      | 550                                    | 0.25               | 1                           | 9.9                    | 115   |
| 1N5929B  | 15   | 25                              | 9                                      | 600                                    | 0.25               | 1                           | 11.4                   | 100   |
| 1N5930B  | 16   | 23.4                            | 10                                     | 600                                    | 0.25               | 1                           | 12.2                   | 93  |
| 1N5931B  | 18   | 20.8                            | 12                                     | 650                                    | 0.25               | 1                           | 13.7                   | 83  |
| 1N5932B  | 20   | 18.7                            | 14                                     | 650                                    | 0.25               | 1                           | 15.2                   | 75  |
| 1N5933B  | 22   | 17                              | 17.5                                   | 650                                    | 0.25               | 1                           | 16.7                   | 68  |
| 1N5934B  | 24   | 15.6                            | 19                                     | 700                                    | 0.25               | 1                           | 18.2                   | 62  |
| 1N5935B  | 27   | 13.9                            | 23                                     | 700                                    | 0.25               | 1                           | 20.6                   | 55  |
| 1N5936B  | 30   | 12.5                            | 26                                     | 750                                    | 0.25               | 1                           | 22.8                   | 50  |
| 1N5937B  | 33   | 11.4                            | 33                                     | 800                                    | 0.25               | 1                           | 25.1                   | 45  |
| 1N5938B  | 36   | 10.4                            | 38                                     | 850                                    | 0.25               | 1                           | 27.4                   | 41  |
| 1N5939B  | 39   | 9.6                             | 45                                     | 900                                    | 0.25               | 1                           | 29.7                   | 38  |
| 1N5940B  | 43   | 8.7                             | 53                                     | 950                                    | 0.25               | 1                           | 32.7                   | 34  |
| 1N5941B  | 47   | 8                               | 67                                     | 1000                                   | 0.25               | 1                           | 35.8                   | 31  |
| 1N5942B  | 51   | 7.3                             | 70                                     | 1100                                   | 0.25               | 1                           | 38.8                   | 29  |
| 1N5943B  | 56   | 6.7                             | 86                                     | 1300                                   | 0.25               | 1                           | 42.6                   | 26  |
| 1N5944B  | 62   | 6                               | 100                                    | 1500                                   | 0.25               | 1                           | 47.1                   | 24  |
| 1N5945B  | 68   | 5.5                             | 120                                    | 1700                                   | 0.25               | 1                           | 51.7                   | 22  |
| 1N5946B  | 75   | 5                               | 140                                    | 2000                                   | 0.25               | 1                           | 56                     | 20  |
| 1N5947B  | 82   | 4.6                             | 160                                    | 2500                                   | 0.25               | 1                           | 62.2                   | 18  |
| 1N5948B  | 91   | 4.1                             | 200                                    | 3000                                   | 0.25               | 1                           | 69.2                   | 16  |
| 1N5949B  | 100  | 3.7                             | 250                                    | 3100                                   | 0.25               | 1                           | 76                     | 15  |
| 1N5950B  | 110  | 3.4                             | 300                                    | 4000                                   | 0.25               | 1                           | 83.6                   | 13  |
| 1N5951B  | 120  | 3.1                             | 380                                    | 4500                                   | 0.25               | 1                           | 91.2                   | 12  |
| 1N5952B  | 130  | 2.9                             | 450                                    | 5000                                   | 0.25               | 1                           | 98.8                   | 11  |
| 1N5953B  | 150  | 2.5                             | 600                                    | 6000                                   | 0.25               | 1                           | 114                    | 10  |
| 1N5954B  | 160  | 2.3                             | 700                                    | 6500                                   | 0.25               | 1                           | 121.6                  | 9   |
| 1N5955B  | 180  | 2.1                             | 900                                    | 7000                                   | 0.25               | 1                           | 136.8                  | 8   |
| 1N5956B  | 200  | 1.9                             | 1200                                   | 8000                                   | 0.25               | 1                           | 152                    | 7   |

\* TOLERANCE AND VOLTAGE DESIGNATION Tolerance designation - The type numbers listed indicate a tolerance of ±0.5%

## RATING AND CHARACTERISTICS CURVES

### 1N5926B THRU 1N5956B

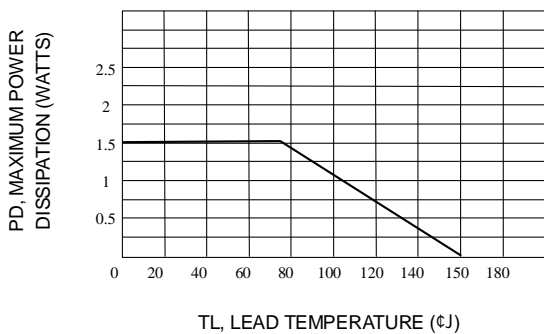


Fig. 1-STEADY STATE POWER DERATING

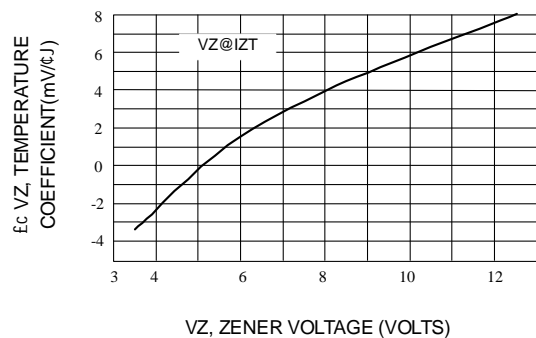


Fig. 2-ZENER VOLTAGE-TO 12 VOLTS

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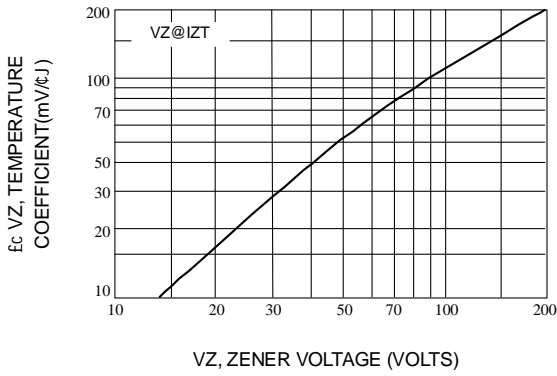


Fig. 3-ZENER VOLTAGE-10 TO 200 VOLTS

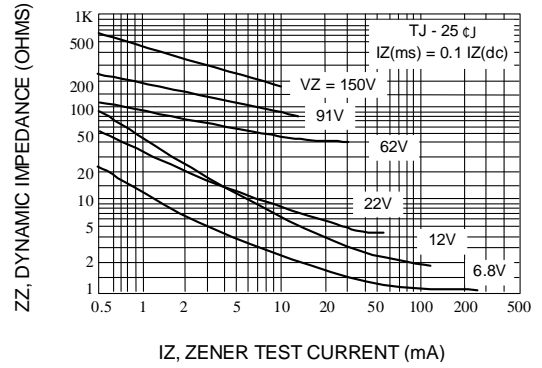


Fig. 4-EFFECT OF ZENER CURRENT

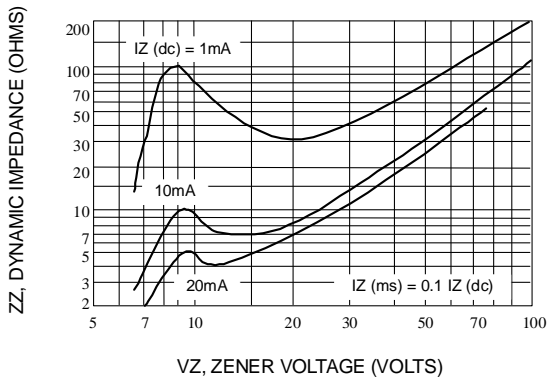


Fig. 7-VZ = 6.8 THRU 10 VOLTS

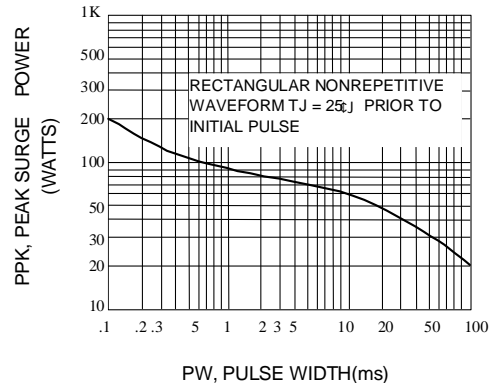


Fig. 8-VZ = 12 THRU 82 VOLTS

