

## 1N957B - 1N984B

$V_Z$  : 6.8 to 91V

$P_D$ : 500mW

### FEATURES :

- Silicon planar power zener diodes.
- Standard Zener voltage tolerance is  $\pm 5\%$
- Other tolerances are available upon request.
- Pb / RoHS Free

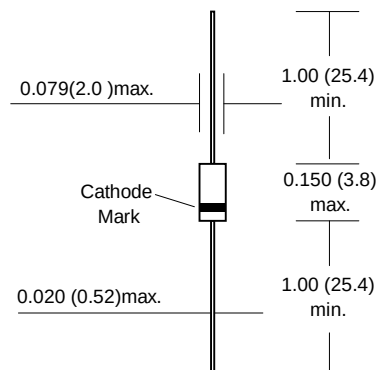
### MECHANICAL DATA :

**Case:** DO-35 Glass Case

**Weight:** approx. 0.13g

## ZENER DIODES

DO - 35 Glass  
(DO-204AH)



Dimensions in inches and ( millimeters )

### Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter                                     | Symbol          | Value              | Unit               |
|-----------------------------------------------|-----------------|--------------------|--------------------|
| Zener Current see Table "Characteristics"     |                 |                    |                    |
| Maximum Forward Voltage at $I_F = 200$ mA.    | $V_F$           | 1.5                | V                  |
| Power Dissipation at $T_L = 25^\circ\text{C}$ | $P_D$           | 500 <sup>(1)</sup> | mW                 |
| Thermal Resistance Junction to Ambient Air    | $R_{\theta JA}$ | 300 <sup>(1)</sup> | $^\circ\text{C/W}$ |
| Junction temperature                          | $T_J$           | 175                | $^\circ\text{C}$   |
| Storage temperature range                     | $T_S$           | -65 to + 150       | $^\circ\text{C}$   |

Notes:

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type Number | Zener Voltage<br>$V_Z @ I_{ZT}$ |               | Maximum Zener Impedance <sup>(1)</sup> |                       |               | Maximum Reverse Leakage Current |              | Maximum DC. Zener Current |
|-------------|---------------------------------|---------------|----------------------------------------|-----------------------|---------------|---------------------------------|--------------|---------------------------|
|             | Nominal (V)                     | $I_{ZT}$ (mA) | $Z_{ZT} @ I_{ZT}$ (W)                  | $Z_{ZK} @ I_{ZK}$ (W) | $I_{ZK}$ (mA) | $I_R$ (mA)                      | at $V_R$ (V) | $I_{ZM}^{(2)}$ (mA)       |
| 1N957B      | 6.8                             | 18.5          | 4.5                                    | 700                   | 1.00          | 150                             | 5.2          | 58                        |
| 1N958B      | 7.5                             | 16.5          | 5.5                                    | 700                   | 0.50          | 75                              | 5.7          | 53                        |
| 1N959B      | 8.2                             | 15.0          | 6.5                                    | 700                   | 0.50          | 50                              | 6.2          | 47                        |
| 1N960B      | 9.1                             | 14.0          | 7.5                                    | 700                   | 0.50          | 25                              | 6.9          | 43                        |
| 1N961B      | 10                              | 12.5          | 8.5                                    | 700                   | 0.25          | 10                              | 7.6          | 40                        |
| 1N962B      | 11                              | 11.5          | 9.5                                    | 700                   | 0.25          | 5                               | 8.4          | 36                        |
| 1N963B      | 12                              | 10.5          | 11.5                                   | 700                   | 0.25          | 5                               | 9.1          | 32                        |
| 1N964B      | 13                              | 9.5           | 13                                     | 700                   | 0.25          | 5                               | 9.9          | 29                        |
| 1N965B      | 15                              | 8.5           | 16                                     | 700                   | 0.25          | 5                               | 11.4         | 27                        |
| 1N966B      | 16                              | 7.8           | 17                                     | 700                   | 0.25          | 5                               | 12.2         | 24                        |
| 1N967B      | 18                              | 7.0           | 21                                     | 750                   | 0.25          | 5                               | 13.7         | 21                        |
| 1N968B      | 20                              | 6.2           | 25                                     | 750                   | 0.25          | 5                               | 15.2         | 20                        |
| 1N969B      | 22                              | 5.6           | 29                                     | 750                   | 0.25          | 5                               | 16.7         | 18                        |
| 1N970B      | 24                              | 5.2           | 33                                     | 750                   | 0.25          | 5                               | 18.2         | 16                        |
| 1N971B      | 27                              | 4.6           | 41                                     | 750                   | 0.25          | 5                               | 20.6         | 14                        |
| 1N972B      | 30                              | 4.2           | 49                                     | 1000                  | 0.25          | 5                               | 22.8         | 13                        |
| 1N973B      | 33                              | 3.8           | 58                                     | 1000                  | 0.25          | 5                               | 25.1         | 12                        |
| 1N974B      | 36                              | 3.4           | 70                                     | 1000                  | 0.25          | 5                               | 27.4         | 11                        |
| 1N975B      | 39                              | 3.2           | 80                                     | 1000                  | 0.25          | 5                               | 29.7         | 10                        |
| 1N976B      | 43                              | 3.0           | 93                                     | 1500                  | 0.25          | 5                               | 32.7         | 9.2                       |
| 1N977B      | 47                              | 2.7           | 105                                    | 1500                  | 0.25          | 5                               | 35.8         | 8.5                       |
| 1N978B      | 51                              | 2.5           | 125                                    | 1500                  | 0.25          | 5                               | 38.8         | 7.8                       |
| 1N979B      | 56                              | 2.2           | 150                                    | 2000                  | 0.25          | 5                               | 42.6         | 6.9                       |
| 1N980B      | 62                              | 2.0           | 185                                    | 2000                  | 0.25          | 5                               | 47.1         | 6.3                       |
| 1N981B      | 68                              | 1.8           | 230                                    | 2000                  | 0.25          | 5                               | 51.7         | 5.7                       |
| 1N982B      | 75                              | 1.7           | 270                                    | 2000                  | 0.25          | 5                               | 56           | 5.2                       |
| 1N983B      | 82                              | 1.5           | 330                                    | 3000                  | 0.25          | 5                               | 62.2         | 4.7                       |
| 1N984B      | 91                              | 1.4           | 440                                    | 3000                  | 0.25          | 5                               | 69.2         | 4.3                       |

### Notes:

- (1) The Zener Impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current ( $I_{ZT}$ ) is superimposed on  $I_{ZT}$ . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.
- (2) Valid provided that leads at a distance of 3/8" from case are kept at 25°C ambient temperature.
- (3) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 5.0\%$ .