

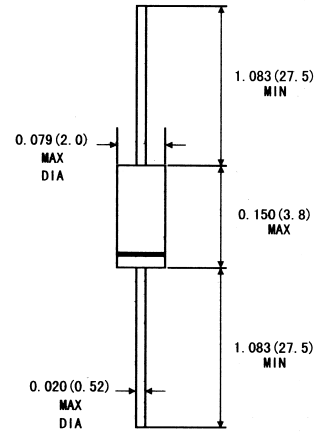
FEATURES

- Silicon planar power zener diodes
- Standards zener voltage tolerance is $\pm 20\%$. Add suffix "A" for $\pm 10\%$ tolerance and suffix "B" for $\pm 5\%$ tolerance other tolerance, non standards and higher zener voltage upon request

MECHANICAL DATA

- **Case:** DO-35 glass case
- **Polarity:** Color band denotes cathode end
- **Weight:** Approx. 0.13gram

DO-35



Dimensions in inches and (millimeters)

ABSOLUTE MAXIMUM RATINGS(LIMITING VALUES)($T_A=25^\circ\text{C}$)

| | Symbols | Value | Units |
|---|-----------|-------------------|------------------|
| Zener current see table "Characteristics" | | | |
| Power dissipation at $T_A=75^\circ\text{C}$ | P_{tot} | 500 ¹⁾ | mW |
| Junction temperature | T_J | 175 | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -65 to + 175 | $^\circ\text{C}$ |

1)Valid provided that at a distance of 8mm from case are kept at ambient temperature(DO-35)

ELECTRICAL CHARACTERISTICS($T_A=25^\circ\text{C}$)

| | Symbols | Min. | Typ. | Max. | Units |
|--|-----------------|------|------|-------------------|---------------------------|
| Thermal resistance junction to ambient | $R_{\theta JA}$ | | | 300 ¹⁾ | $^\circ\text{C}/\text{W}$ |
| Forward voltage at $I_F=200\text{mA}$ | V_F | | | 1.5 | |

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

1N957..1N978 SILICON PLANAR ZENER DIODES

| Type | Zener Voltage Range ³⁾ | | Maximum zener impedance ¹⁾ | | | Typical Temperature coefficient | Maximum Reverse Leakage Current | | | Maximum Regulator Current I _{ZM 2)} | | |
|-------|-----------------------------------|-----------------------|---------------------------------------|----------------------|-----------------------|---------------------------------|---------------------------------|---------------|---------------|---|-----|----|
| | V _{ZNOM} V | I _{ZT} mA | Z _{ZT} Ω | Z _{ZK} Ω | I _{ZK} mA | | I _{R 2)} μA | Test-Voltage | | | | |
| | | | | | | | | suffix A V | suffix B V | | | |
| 1N957 | 6.8 | 18.5 | 4.5 | 700 | 1 | 0.050 | 150 | 4.9 | 5.2 | 47 | | |
| 1N958 | 7.5 | 16.5 | 5.5 | | | 0.5 | | 0.058 | 75 | 5.4 | 5.7 | 42 |
| 1N959 | 8.2 | 15 | | | | | | 0.062 | 50 | 5.9 | 6.2 | 38 |
| 1N960 | 9.1 | 14 | | | | | | 0.068 | 10 | 6.6 | 6.9 | 35 |
| 1N961 | 10 | 12.5 | 5 | | 0.25 | 0.075 | 5 | 7.2 | 7.6 | 32 | | |
| 1N962 | 11 | 11.5 | | | | 0.076 | | 8 | 8.4 | 28 | | |
| 1N963 | 12 | 10.5 | | | | 0.077 | 8.6 | 9.1 | 26 | | | |
| 1N964 | 13 | 9.5 | | | | 0.079 | 9.4 | 9.9 | 24 | | | |
| 1N965 | 15 | 8.5 | | | | 0.082 | 10.8 | 11.4 | 21 | | | |
| 1N966 | 16 | 7.8 | | | | 0.083 | 11.5 | 12.2 | 19 | | | |
| 1N967 | 18 | 7 | | | | 0.085 | 13 | 13.7 | 17 | | | |
| 1N968 | 20 | 6.2 | | | | 0.086 | 14.4 | 15.2 | 15 | | | |
| 1N969 | 22 | 5.6 | | | | 0.087 | 15.8 | 16.7 | 14 | | | |
| 1N970 | 24 | 5.2 | | | | 0.088 | 17.3 | 18.2 | 14 | | | |
| 1N971 | 27 | 4.6 | 0.090 | 19.4 | 20.6 | 11 | | | | | | |
| 1N972 | 30 | 4.2 | 0.091 | 21.6 | 22.8 | 10 | | | | | | |
| 1N973 | 33 | 3.8 | 0.092 | 23.8 | 25.1 | 9.0 | | | | | | |
| 1N974 | 36 | 3.4 | 0.093 | 25.9 | 27.4 | 8.5 | | | | | | |
| 1N975 | 39 | 3.2 | 0.094 | 28.1 | 29.7 | 7.8 | | | | | | |
| 1N976 | 43 | 3 | 0.095 | 31 | 32.7 | 7.0 | | | | | | |
| 1N977 | 47 | 2.7 | 0.095 | 33.8 | 35.8 | 6.4 | | | | | | |
| 1N978 | 51 | 2.5 | 0.096 | 36.7 | 38.8 | 5.9 | | | | | | |

Notes:

- (1) The Zener impedance is derived from the 1kHz 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 are kept at ambient temperature at a distance of 8mm from case
- (3) Measured with device junction in thermal equilibrium.