



1N957 THRU 1N978

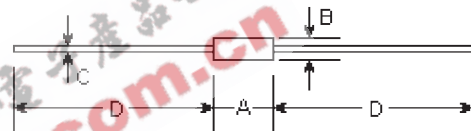
SILICON PLANAR ZENER DIODES

Features

Silicon Planar Zener Diodes

Standard Zener voltage tolerance is $\pm 20\%$. Add suffix "A" for $\pm 10\%$ tolerance and suffix "B" for $\pm 5\%$ tolerance. Other tolerances, non standard and higher Zener voltages upon request.

DO-35



| DIM | DIMENSIONS | | | | Note |
|-----|------------|-------|-------|------|--------|
| | inches | | mm | | |
| | Min. | Max. | Min. | Max. | |
| A | - | 0.154 | - | 3.9 | |
| B | - | 0.075 | - | 1.9 | ϕ |
| C | - | 0.020 | - | 0.52 | ϕ |
| D | 1.083 | - | 27.50 | - | |

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

| | Symbols | Values | Units |
|---|-----------|--------------------|------------------|
| Zener current see Table "Characteristics" | | | |
| Power dissipation at $T_{amb}=50^\circ\text{C}$ | P_{tot} | 400 ⁽¹⁾ | mW |
| Junction temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage temperature range | T_s | -65 to +175 | $^\circ\text{C}$ |

Note:

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

Characteristics at $T_{amb}=25^\circ\text{C}$

| | Symbols | Min. | Typ. | Max. | Units |
|--|-----------|------|------|--------------------|-------|
| Thermal resistance junction to ambient Air | R_{thA} | - | - | 0.3 ⁽¹⁾ | K/mW |
| Forward voltage at $I_F=200\text{mA}$ | V_F | - | - | 1.5 | V |

Note:

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

| Type | Zener voltage range ¹⁾ | | Dynamic resistance | | | Typical temperature coefficient (%/°C) | Maximum reverse leakage current | | | Maximum regulator current I _{ZM} |
|-------|-----------------------------------|-----------------|--|------|------|---|---------------------------------|--|------|--|
| | V _{Znom} | I _{ZT} | r _{ZT} and r _{ZK} at I _{ZK} | | | | I _R ²⁾ | Test - Voltage Suffix A Suffix B | | |
| | V | mA | Ω | Ω | mA | | uA | V | V | |
| 1N957 | 6.8 | 18.5 | 4.5 | 700 | 1.0 | 0.050 | 150 | 4.9 | 5.2 | 47 |
| 1N958 | 7.5 | 16.5 | 5.5 | 700 | 0.5 | 0.058 | 75 | 5.4 | 5.7 | 42 |
| 1N959 | 8.2 | 15 | 6.5 | 700 | 0.5 | 0.062 | 50 | 5.9 | 6.2 | 38 |
| 1N960 | 9.1 | 14 | 7.5 | 700 | 0.5 | 0.068 | 25 | 6.6 | 6.9 | 35 |
| 1N961 | 10 | 12.5 | 8.5 | 700 | 0.25 | 0.075 | 10 | 7.2 | 7.6 | 32 |
| 1N962 | 11 | 11.5 | 9.5 | 700 | 0.25 | 0.076 | 5 | 8.0 | 8.4 | 28 |
| 1N963 | 12 | 10.5 | 11.5 | 700 | 0.25 | 0.077 | 5 | 8.6 | 9.1 | 26 |
| 1N964 | 13 | 9.5 | 13 | 700 | 0.25 | 0.079 | 5 | 9.4 | 9.9 | 24 |
| 1N965 | 15 | 8.5 | 16 | 700 | 0.25 | 0.082 | 5 | 10.8 | 11.4 | 21 |
| 1N966 | 16 | 7.8 | 17 | 700 | 0.25 | 0.083 | 5 | 11.5 | 12.2 | 19 |
| 1N967 | 18 | 7.0 | 21 | 750 | 0.25 | 0.085 | 5 | 13.0 | 13.7 | 17 |
| 1N968 | 20 | 6.2 | 25 | 750 | 0.25 | 0.086 | 5 | 14.4 | 15.2 | 15 |
| 1N969 | 22 | 5.6 | 29 | 750 | 0.25 | 0.087 | 5 | 15.8 | 16.7 | 14 |
| 1N970 | 24 | 5.2 | 33 | 750 | 0.25 | 0.088 | 5 | 17.3 | 18.2 | 13 |
| 1N971 | 27 | 4.6 | 41 | 750 | 0.25 | 0.090 | 5 | 19.4 | 20.6 | 11 |
| 1N972 | 30 | 4.2 | 49 | 1000 | 0.25 | 0.091 | 5 | 21.6 | 22.8 | 10 |
| 1N973 | 33 | 3.8 | 58 | 1000 | 0.25 | 0.092 | 5 | 23.8 | 25.1 | 9.0 |
| 1N974 | 36 | 3.4 | 70 | 1000 | 0.25 | 0.093 | 5 | 25.9 | 27.4 | 8.5 |
| 1N975 | 39 | 3.2 | 80 | 1000 | 0.25 | 0.094 | 5 | 28.1 | 29.7 | 7.8 |
| 1N976 | 43 | 3.0 | 93 | 1500 | 0.25 | 0.095 | 5 | 31.0 | 32.7 | 7.0 |
| 1N977 | 47 | 2.7 | 105 | 1500 | 0.25 | 0.095 | 5 | 33.8 | 35.8 | 6.4 |
| 1N978 | 51 | 2.5 | 125 | 1500 | 0.25 | 0.096 | 5 | 36.7 | 38.8 | 5.9 |

Notes:

(1) Test with pulse tp=20ms.

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

RATINGS AND CHARACTERISTIC CURVES

Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient
temperature at a distance of 10 mm from case.

