

1N935(A)(B)(UR)-1N935(A)(B)(UR)

High-reliability discrete products and engineering services since 1977

TEMPERATURE COMPENSATED ZENER REFERENCE DIODES

FEATURES

- Available as High Reliability, JANTX level by adding "-HR" suffix.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.
- Available as surface mount by adding "UR" suffix.

MAXIMUM RATINGS

| Characteristics | Values | | |
|-----------------------------------|--|--|--|
| Junction and storage temperatures | -65 to +175°C | | |
| DC power dissipation | 500mW @ T_L = 25°C and maximum current I_{ZM} of 50 mA. For optimum voltage temperature stability, I_Z = 7.5mA (less than 75 mW in dissipated power) | | |
| Solder temperatures | 260°C for 10 s (maximum) | | |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

| Part number | Zener voltage Vz @ I _{ZT} | Zener test current I _{zī} | Maximum zener impedance Z _{ZT} @ I _{ZT} | Voltage temperature stability ∆V _{z1} maximum | Temperature range | Effective temperature coefficient |
|-------------|---------------------------------------|--|---|---|----------------------|---|
| Notos 1 | Notes 1 & 4 | | Note 2 | Notes 3 & 4 | | u _{vz} |
| Notes 1 | Volts | mA | Ohms | mV | °C | %/°C |
| 1N935 | 8.55-9.45 | 7.5 | 20 | 67 | 0 to +75 | 0.01 |
| 1N935A | 8.55-9.45 | 7.5 | 20 | 139 | -55 to +100 | 0.01 |
| 1N935B | 8.55-9.45 | 7.5 | 20 | 184 | -55 to +150 | 0.01 |
| 1N936 | 8.55-9.45 | 7.5 | 20 | 33 | 0 to +75 | 0.005 |
| 1N936A | 8.55-9.45 | 7.5 | 20 | 69 | -55 to +100 | 0.005 |
| 1N936B | 8.55-9.45 | 7.5 | 20 | 92 | -55 to +150 | 0.005 |
| 1N937 | 8.55-9.45 | 7.5 | 20 | 13 | 0 to +75 | 0.002 |
| 1N937A | 8.55-9.45 | 7.5 | 20 | 27 | -55 to +100 | 0.002 |
| 1N937B | 8.55-9.45 | 7.5 | 20 | 37 | -55 to +150 | 0.002 |
| 1N938 | 8.55-9.45 | 7.5 | 20 | 6 | 0 to +75 | 0.001 |
| 1N938A | 8.55-9.45 | 7.5 | 20 | 13 | -55 to +100 | 0.001 |
| 1N938B | 8.55-9.45 | 7.5 | 20 | 18 | -55 to +150 | 0.001 |
| 1N939 | 8.55-9.45 | 7.5 | 20 | 3 | 0 to +75 | 0.0005 |
| 1N939A | 8.55-9.45 | 7.5 | 20 | 7 | -55 to +100 | 0.0005 |
| 1N939B | 8.55-9.45 | 7.5 | 20 | 9 | -55 to +150 | 0.0005 |
| 1N940 | 8.55-9.45 | 7.5 | 20 | 1.3 | 0 to +75 | 0.0002 |
| 1N940A | 8.55-9.45 | 7.5 | 20 | 2.7 | -55 to +100 | 0.0002 |
| 1N940B | 8.55-9.45 | 7.5 | 20 | 3.7 | -55 to +150 | 0.0002 |

Note 1. For devices with tighter tolerances, use a nominal voltage of 9.2V and add a hyphenated suffix to the part number for desired tolerance at the end of the part number,

ie. – 2%

Note 2. Measured by superimposing 0.75mA ac rms on 7.5 mA dc @ 25°C

Note 3. The maximum allowable change observed over the entire temperature range, i.e. the diode voltage will not exceed the specified mV change at any discrete temperature between the established limits

Note 4. Voltage measurements to be performed 15 seconds after application of dc current



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MECHANICAL CHARACTERISTICS

| Case | DO-35 hermetically sealed glass |
|----------|---------------------------------|
| Marking | Body painted, alpha numeric |
| Polarity | Cathode band |



| | DO-35 | | | | |
|----|--------|-------|-------------|--------|--|
| | Inches | | Millimeters | | |
| | Min | Max | Min | Max | |
| BD | 0.055 | 0.090 | 1.400 | 2.290 | |
| BL | 0.120 | 0.200 | 3.050 | 5.080 | |
| LD | 0.018 | 0.022 | 0.460 | 0.560 | |
| LL | 1.000 | 1.500 | 25.400 | 38,100 | |

| Case | SOD-80 | |
|-----------------------|--------------|--|
| Marking Alpha numeric | | |
| Polarity | Cathode band | |





| | SO D-80 | | | |
|----|-----------|-------|-------------|-------|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| D | 0.063 | 0.067 | 1.600 | 1.700 |
| F | 0.016 | 0.022 | 0.410 | 0.550 |
| G | 0.130 | 0.146 | 3.300 | 3.700 |
| G1 | 0.100 REF | | 2.540 REF | |
| S | 0.001 | - | 0.030 | - |



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