



Micro Commercial Components
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1N746 THRU 1N759

Features

- Zener Voltage 3.3V to 12V
- Silicon Planar Power Zener Diodes
- Standards zener voltage tolerance is $\pm 10\%$, Add suffix "A" for $\pm 5\%$ tolerance, other tolerances are available upon request

Mechanical Data

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

Maximum Ratings

| | Symbol | Value | Units |
|---|------------------|-------------|------------------|
| Zener Current | | See Table 1 | |
| Power Dissipation @ $T_A=50^\circ\text{C}$ | P_{tot} | 500 | mW |
| Junction Temperature | T_J | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to 175 | $^\circ\text{C}$ |

Electrical Characteristics @ 25°C Unless Otherwise Specified

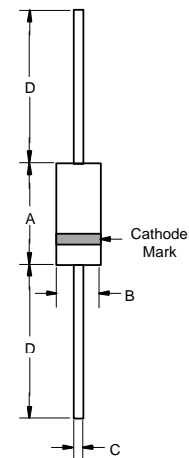
| | Symbol | Maximum | Unit |
|---|-----------------------|---------|--------------------|
| Thermal resistance | $R_{\theta\text{JA}}$ | 300 | $^\circ\text{C/W}$ |
| Forward Voltage @ $I_F=200\text{mA}$ | V_F | 1.5 | V |

NOTE:

- 1) Valid provided that a distance of 8mm from case are kept at ambient temperature
- 2) Power derating: 4.0mW/ $^\circ\text{C}$ above 50°C

0.5W Silicon Planar Zener Diodes

DO-35



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | --- | .166 | --- | 4.2 | |
| B | --- | .079 | --- | 2.00 | |
| C | --- | .020 | --- | .52 | |
| D | 1.000 | --- | 25.40 | --- | |

1N746 thru 1N759



| MCC PART NUMBER | NORMAL ZENER VOLTAGE $V_z @ I_{zt}$ | TEST CURRENT I_{zt} | MAXIMUM ZENER IMPEDANCE $Z_{zt} @ I_{zt}$ | MAXIMUM REVERSE LEAKAGE CURRENT $I_r @ V_r=1V$ | | MAXIMUM ZENER CURRENT I_{zm} | TYPICAL TEMP. COEFFICIENT |
|-----------------|--|--------------------------|--|---|-----------------------|-----------------------------------|---------------------------|
| | VOLTS | mA | OHMS | $\mu A @ 25^\circ C$ | $\mu A @ 125^\circ C$ | mA | %/°C |
| 1N746 | 3.3 | 20 | 28 | 10 | 30 | 110 | -.066 |
| 1N747 | 3.6 | 20 | 24 | 10 | 30 | 100 | -.058 |
| 1N748 | 3.9 | 20 | 23 | 10 | 30 | 95 | -.046 |
| 1N749 | 4.3 | 20 | 22 | 2 | 30 | 85 | -.033 |
| 1N750 | 4.7 | 20 | 19 | 2 | 30 | 75 | -.015 |
| 1N751 | 5.1 | 20 | 17 | 1 | 20 | 70 | ± 0.10 |
| 1N752 | 5.6 | 20 | 11 | 1 | 20 | 65 | +0.030 |
| 1N753 | 6.2 | 20 | 7.0 | 0.1 | 20 | 60 | +0.049 |
| 1N754 | 6.8 | 20 | 5.0 | 0.1 | 20 | 55 | +0.053 |
| 1N755 | 7.5 | 20 | 6.0 | 0.1 | 20 | 50 | +0.057 |
| 1N756 | 8.2 | 20 | 8.0 | 0.1 | 20 | 45 | +0.060 |
| 1N757 | 9.1 | 20 | 10 | 0.1 | 20 | 40 | +0.061 |
| 1N758 | 10 | 20 | 17 | 0.1 | 20 | 35 | +0.062 |
| 1N759 | 12 | 20 | 30 | 0.1 | 20 | 30 | +0.062 |

Note:

- 1) Tested with pulses $t_p=20ms$
- 2) Valid provided that leads are kept at ambient temperature at a distance of 8mm from case.
- 3) Zener impedance derived by superimposing on I_{zt} , a 60 cps, rms ac current equal to 10% I_{zt} (2 mA ac)
- 4) Allowance has been made for the increase in V_z due to Z_z and for the increase in junction temperature as the unit approaches thermal equilibrium at the power dissipation of 400mW.