



# Frontier Electronics Corp.

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## 1WATT ZENER DIODE

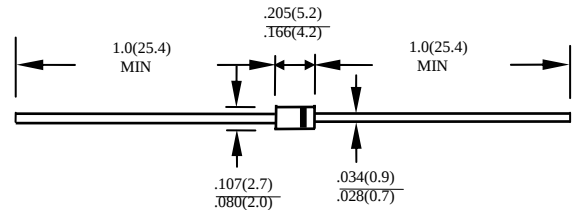
### 1N4736A THRU 1N4764A

#### FEATURES

- LOW COST
- SMALL SIZE

#### MECHANICAL DATA

- CASE DO-41, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: AXIAL LEADS, SOLDERABLE PER MIL-STD -202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE
- MOUNTING POSITION: ANY
- WEIGHT: 0.34 GRAMS



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED STORAGE AND OPERATING TEMPERATURE RANGE -55°C TO + 150°C

| ELECTRICAL CHARACTERISTICS (TA=25 °C UNLESS OTHERWISE NOTED) VF=1.2V MAX, IF = 200mA FOR ALL TYPES |                                                                          |                                          |                                           |                                           |                       |                          |                         |                                                      |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------|--------------------------|-------------------------|------------------------------------------------------|
| JEDEC<br>TYPE NO                                                                                   | NOMINAL<br>ZENER<br>VOLTAGE<br>V <sub>Z</sub> @ I <sub>ZT</sub><br>VOLTS | TEST<br>CURRENT<br>I <sub>ZT</sub><br>mA | MAXIMUM ZENER IMPEDANCE                   |                                           |                       | LEAKAGE CURRENT          |                         | SURGE<br>CURRENT<br>@ TA=25°C<br>I <sub>R</sub> - mA |
|                                                                                                    |                                                                          |                                          | Z <sub>ZT</sub> @ I <sub>ZT</sub><br>OHMS | Z <sub>ZK</sub> @ I <sub>ZK</sub><br>OHMS | I <sub>ZK</sub><br>mA | I <sub>R</sub><br>μA MAX | V <sub>R</sub><br>VOLTS |                                                      |
| 1N4736A                                                                                            | 6.8                                                                      | 37                                       | 3.5                                       | 700                                       | 1                     | 10                       | 4                       | 660                                                  |
| 1N4737A                                                                                            | 7.5                                                                      | 34                                       | 4                                         | 700                                       | 0.5                   | 10                       | 5                       | 605                                                  |
| 1N4738A                                                                                            | 8.2                                                                      | 31                                       | 4.5                                       | 700                                       | 0.5                   | 10                       | 6                       | 550                                                  |
| 1N4739A                                                                                            | 9.1                                                                      | 28                                       | 5                                         | 700                                       | 0.5                   | 10                       | 7                       | 500                                                  |
| 1N4740A                                                                                            | 10                                                                       | 25                                       | 7                                         | 700                                       | 0.25                  | 10                       | 7.6                     | 454                                                  |
| 1N4741A                                                                                            | 11                                                                       | 23                                       | 8                                         | 700                                       | 0.25                  | 5                        | 8.4                     | 414                                                  |
| 1N4742A                                                                                            | 12                                                                       | 21                                       | 9                                         | 700                                       | 0.25                  | 5                        | 9.1                     | 380                                                  |
| 1N4743A                                                                                            | 13                                                                       | 19                                       | 10                                        | 700                                       | 0.25                  | 5                        | 9.9                     | 344                                                  |
| 1N4744A                                                                                            | 15                                                                       | 17                                       | 14                                        | 700                                       | 0.25                  | 5                        | 11.4                    | 304                                                  |
| 1N4745A                                                                                            | 16                                                                       | 15.5                                     | 16                                        | 700                                       | 0.25                  | 5                        | 12.2                    | 285                                                  |
| 1N4746A                                                                                            | 18                                                                       | 14                                       | 20                                        | 750                                       | 0.25                  | 5                        | 13.7                    | 250                                                  |
| 1N4747A                                                                                            | 20                                                                       | 12.5                                     | 22                                        | 750                                       | 0.25                  | 5                        | 15.2                    | 225                                                  |
| 1N4748A                                                                                            | 22                                                                       | 11.5                                     | 23                                        | 750                                       | 0.25                  | 5                        | 16.7                    | 205                                                  |
| 1N4749A                                                                                            | 24                                                                       | 10.5                                     | 25                                        | 750                                       | 0.25                  | 5                        | 18.2                    | 190                                                  |
| 1N4750A                                                                                            | 27                                                                       | 9.5                                      | 35                                        | 750                                       | 0.25                  | 5                        | 20.6                    | 170                                                  |
| 1N4751A                                                                                            | 30                                                                       | 8.5                                      | 40                                        | 1000                                      | 0.25                  | 5                        | 22.8                    | 150                                                  |
| 1N4752A                                                                                            | 33                                                                       | 7.5                                      | 45                                        | 1000                                      | 0.25                  | 5                        | 25.1                    | 135                                                  |
| 1N4753A                                                                                            | 36                                                                       | 7                                        | 50                                        | 1000                                      | 0.25                  | 5                        | 27.4                    | 125                                                  |
| 1N4754A                                                                                            | 39                                                                       | 6.5                                      | 60                                        | 1000                                      | 0.25                  | 5                        | 29.7                    | 115                                                  |
| 1N4755A                                                                                            | 43                                                                       | 6                                        | 70                                        | 1500                                      | 0.25                  | 5                        | 32.7                    | 110                                                  |
| 1N4756A                                                                                            | 47                                                                       | 5.5                                      | 80                                        | 1500                                      | 0.25                  | 5                        | 35.8                    | 95                                                   |
| 1N4757A                                                                                            | 51                                                                       | 5                                        | 95                                        | 1500                                      | 0.25                  | 5                        | 38.8                    | 90                                                   |
| 1N4758A                                                                                            | 56                                                                       | 4.5                                      | 110                                       | 2000                                      | 0.25                  | 5                        | 42.6                    | 80                                                   |
| 1N4759A                                                                                            | 62                                                                       | 4                                        | 125                                       | 2000                                      | 0.25                  | 5                        | 47.1                    | 70                                                   |
| 1N4760A                                                                                            | 68                                                                       | 3.7                                      | 150                                       | 2000                                      | 0.25                  | 5                        | 51.7                    | 65                                                   |
| 1N4761A                                                                                            | 75                                                                       | 3.3                                      | 175                                       | 2000                                      | 0.25                  | 5                        | 56                      | 60                                                   |
| 1N4762A                                                                                            | 82                                                                       | 3                                        | 200                                       | 3000                                      | 0.25                  | 5                        | 62.2                    | 55                                                   |
| 1N4763A                                                                                            | 91                                                                       | 2.8                                      | 250                                       | 3000                                      | 0.25                  | 5                        | 69.2                    | 50                                                   |
| 1N4764A                                                                                            | 100                                                                      | 2.5                                      | 350                                       | 3000                                      | 0.25                  | 5                        | 76                      | 45                                                   |

NOTE: SUFFIX "A" FOR ± 5%.

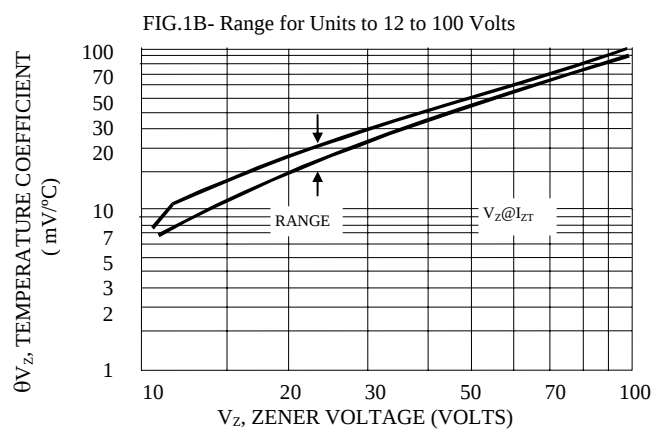
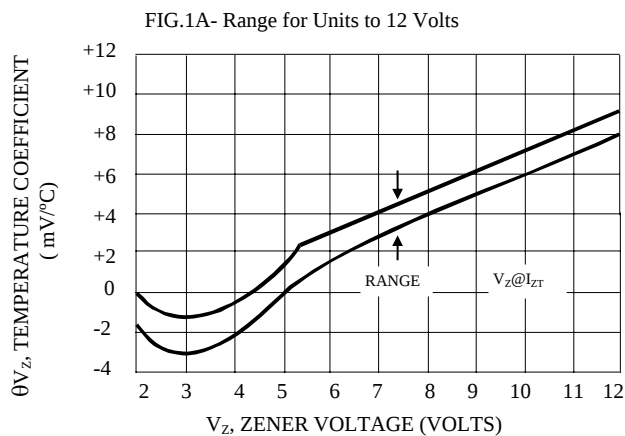


Figure 2. Temperature Coefficients (-55°C to +150°C temperature change; 90% of the units are in the ranges indicated.)

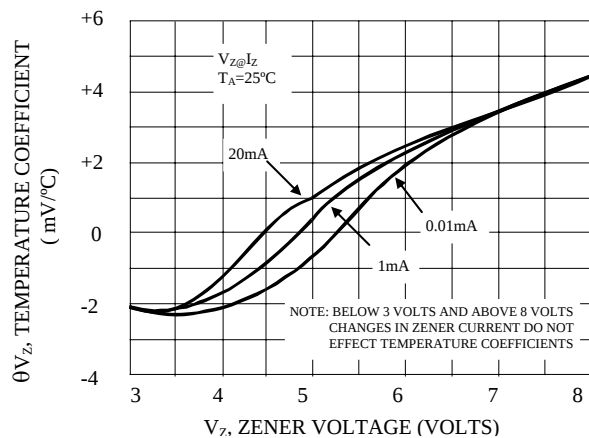
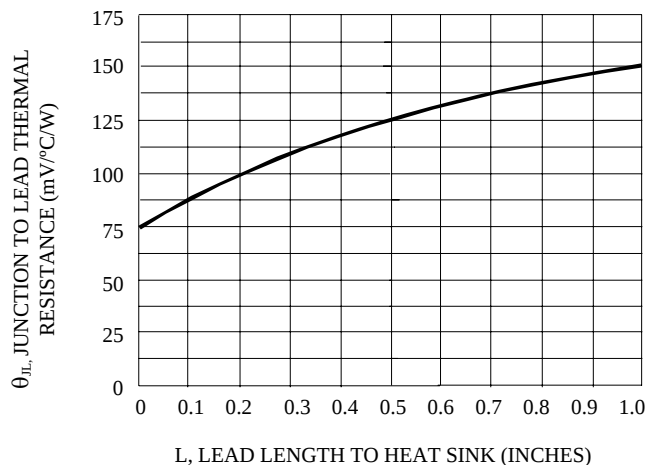


Figure 3. Typical Thermal Resistance versus Lead Length

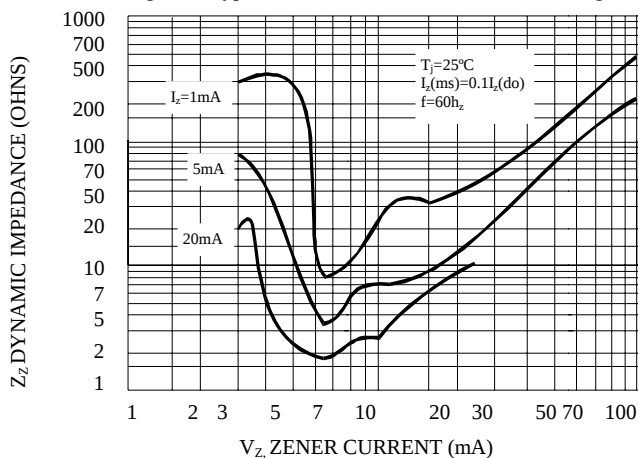


Figure 4. Effect of Zener Current

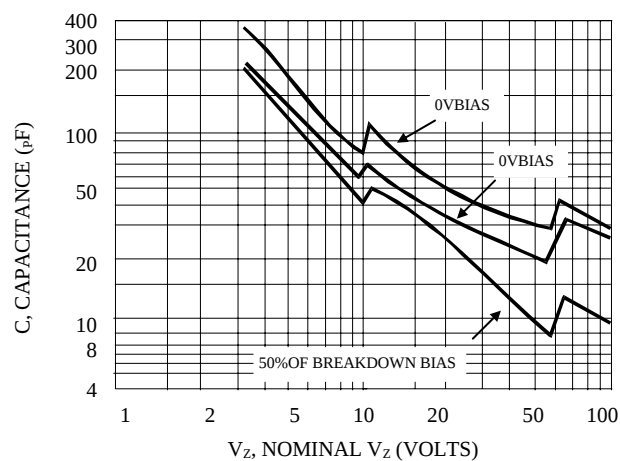


Figure 7 - Power Temperature Derating Curve

