

# POWER ZENERS

## 1 Watt, Industrial

UZ8706 SERIES  
UZ8806 SERIES

### FEATURES

- High Surge Ratings
- A Quarter the Size of Conventional 1 Watt Zeners
- Impervious to Moisture

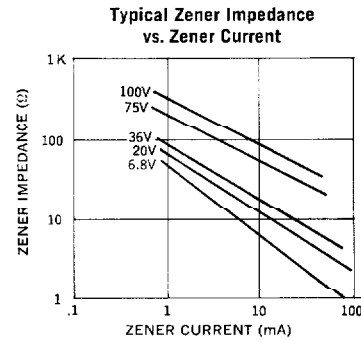
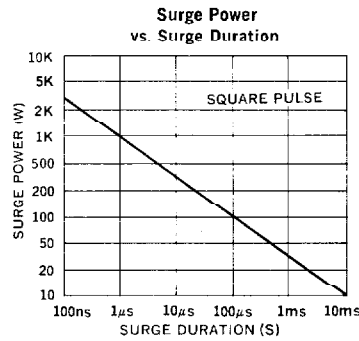
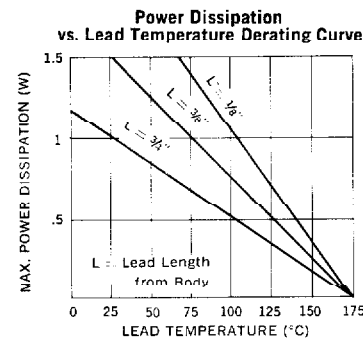
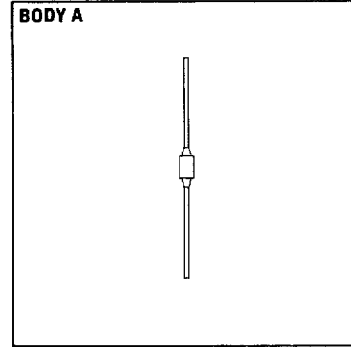
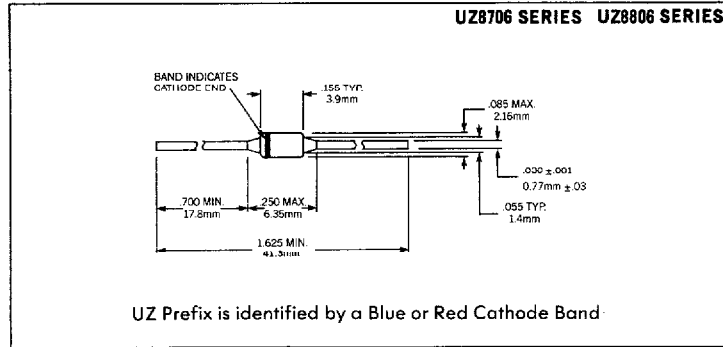
### DESCRIPTION

One watt zener diodes, hermetically sealed in glass.

### ABSOLUTE MAXIMUM RATINGS

|   |                                     |
|---|-------------------------------------|
| Zener Voltage, $V_z$ .....              | 6.8 to 200V                         |
| Continuous Current .....                | See Table                           |
| Surge Current (8.3ms) .....             | See Table                           |
| Surge Power .....                       | See Graph                           |
| Power .....                             | See Lead Temperature Derating Curve |
| Storage and Operating Temperature ..... | -65°C to +175°C                     |

### MECHANICAL SPECIFICATIONS



| Type           |                 | Electrical Specifications at 25°C                           |                                 |  |                                 |                        |                         |  | Maximum Ratings                                 |   |
|----------------|-----------------|---|---------------------------------|--|---------------------------------|------------------------|-------------------------|--|---|---|
|                |                 | Nominal Zener Voltage †<br>V <sub>Z</sub> @ I <sub>ZT</sub> | Test Current<br>I <sub>ZT</sub> | Max. Zener Impedance §<br>Z <sub>Z</sub> @ I <sub>ZT</sub> | Maximum Reverse Leakage Current |                        |                         | Typ. Temp. Coefficient<br>T.C. @ I <sub>ZT</sub> | Maximum Continuous Current *<br>I <sub>ZM</sub> | Maximum Surge Current ‡<br>I <sub>S</sub> |
|                |                 |   |                                 |  | I <sub>R</sub> @ V <sub>R</sub> | ± 5%<br>V <sub>R</sub> | ± 10%<br>V <sub>R</sub> |  |   |   |
| ± 5% Tolerance | ± 10% Tolerance | Volts   | mA                              | Ohms   | µA                              | Volts                  | Volts                   | %/°C   | mA  | Amps                                      |
| UZ 8706        | UZ 8806         | 6.8   | 37                              | 3.5  | 2.0                             | 5.2                    | 4.9                     | 0.04   | 140   | 5.00                                      |
| UZ 8707        | UZ 8807         | 7.5   | 34                              | 4.0  | 30                              | 5.7                    | 5.4                     | 0.04   | 125   | 4.50                                      |
| UZ 8708        | UZ 8808         | 8.2   | 31                              | 4.5  | 10                              | 6.2                    | 5.9                     | 0.05   | 115   | 3.90                                      |
| UZ 8709        | UZ 8809         | 9.1   | 28                              | 5.0  | 3.0                             | 6.9                    | 6.6                     | 0.05   | 105   | 3.37                                      |
| UZ 8710        | UZ 8810         | 10  | 25                              | 7.0  | 2.0                             | 7.6                    | 7.2                     | 0.06   | 95  | 2.77                                      |
| UZ 8712        | UZ 8812         | 12  | 23                              | 9.0  | 1.0                             | 9.1                    | 8.6                     | 0.07   | 85  | 2.25                                      |
| UZ 8713        | UZ 8813         | 13  | 21                              | 10   | 0.5                             | 9.9                    | 9.3                     | 0.07   | 80  | 2.25                                      |
| UZ 8714        | UZ 8814         | 14  | 19                              | 12   | 0.5                             | 10.6                   | 10.1                    | 0.07   | 74  | 2.25                                      |
| UZ 8715        | UZ 8815         | 15  | 17                              | 14   | 0.5                             | 11.4                   | 10.8                    | 0.07   | 63  | 1.65                                      |
| UZ 8716        | UZ 8816         | 16  | 15.5                            | 16   | 0.5                             | 12.1                   | 11.5                    | 0.07   | 60  | 1.65                                      |
| UZ 8718        | UZ 8818         | 18  | 14.0                            | 20   | 0.5                             | 13.7                   | 12.9                    | 0.08   | 52  | 1.12                                      |
| UZ 8720        | UZ 8820         | 20  | 12.5                            | 22   | 0.5                             | 15.2                   | 14.4                    | 0.08   | 47  | 1.12                                      |
| UZ 8722        | UZ 8820         | 22  | 11.5                            | 23   | 0.5                             | 16.7                   | 15.8                    | 0.08   | 43  | 1.12                                      |
| UZ 8724        | UZ 8824         | 24  | 10.5                            | 25   | 0.5                             | 18.2                   | 17.3                    | 0.08   | 40  | 0.825                                     |
| UZ 8727        | UZ 8827         | 27  | 9.5                             | 35   | 0.5                             | 20.5                   | 19.4                    | 0.09   | 35  | 0.825                                     |
| UZ 8730        | UZ 8830         | 30  | 8.5                             | 40   | 0.5                             | 22.8                   | 21.6                    | 0.09   | 31  | 0.825                                     |
| UZ 8733        | UZ 8833         | 33  | 7.5                             | 45   | 0.5                             | 25.1                   | 23.7                    | 0.09   | 28  | 0.675                                     |
| UZ 8736        | UZ 8836         | 36  | 7.0                             | 50   | 0.5                             | 27.3                   | 25.9                    | 0.09   | 26  | 0.562                                     |
| UZ 8740        | UZ 8840         | 40  | 6.5                             | 62   | 0.5                             | 30.4                   | 28.8                    | 0.095  | 24  | 0.562                                     |
| UZ 8745        | UZ 8845         | 45  | 6.0                             | 75   | 0.5                             | 34.2                   | 32.4                    | 0.095  | 22  | 0.450                                     |
| UZ 8750        | UZ 8850         | 50  | 5.0                             | 85   | 0.5                             | 38.0                   | 36.0                    | 0.095  | 20  | 0.450                                     |
| UZ 8756        | UZ 8856         | 56  | 4.5                             | 110  | 0.5                             | 42.5                   | 40.3                    | 0.095  | 17  | 0.390                                     |
| UZ 8760        | UZ 8860         | 60  | 4.0                             | 125  | 0.5                             | 45.6                   | 43.2                    | 0.095  | 15  | 0.337                                     |
| UZ 8770        | UZ 8870         | 70  | 3.7                             | 150  | 0.5                             | 53.2                   | 50.4                    | 0.095  | 14  | 0.337                                     |
| UZ 8775        | UZ 8875         | 75  | 3.3                             | 175  | 0.5                             | 57.0                   | 54.0                    | 0.095  | 12  | 0.277                                     |
| UZ 8780        | UZ 8880         | 80  | 3.0                             | 200  | 0.5                             | 60.8                   | 57.6                    | 0.095  | 11  | 0.225                                     |
| UZ 8790        | UZ 8890         | 90  | 2.8                             | 250  | 0.5                             | 68.4                   | 64.8                    | 0.095  | 10  | 0.225                                     |
| UZ 8110        | UZ 8210         | 100   | 2.5                             | 350  | 0.5                             | 76.0                   | 72.0                    | 0.10   | 9.5   | 0.225                                     |
| UZ 8111        | UZ 8211         | 110   | 2.3                             | 450  | 0.5                             | 83.6                   | 79.2                    | 0.10   | 8.5   | 0.165                                     |
| UZ 8112        | UZ 8212         | 120   | 2.0                             | 550  | 0.5                             | 91.2                   | 86.4                    | 0.10   | 8.0   | 0.112                                     |
| UZ 8113        | UZ 8213         | 130   | 1.9                             | 700  | 0.5                             | 98.8                   | 93.6                    | 0.10   | 7.2   | 0.112                                     |
| UZ 8114        | UZ 8214         | 140   | 1.8                             | 850  | 0.5                             | 106                    | 100                     | 0.10   | 6.8   | 0.112                                     |
| UZ 8115        | UZ 8215         | 150   | 1.7                             | 1000   | 0.5                             | 114                    | 108                     | 0.10   | 6.3   | 0.112                                     |
| UZ 8116        | UZ 8216         | 160   | 1.6                             | 1100   | 0.5                             | 121                    | 115                     | 0.10   | 5.9   | 0.082                                     |
| UZ 8117        | UZ 8217         | 170   | 1.5                             | 1200   | 0.5                             | 129                    | 122                     | 0.10   | 5.6   | 0.082                                     |
| UZ 8118        | UZ 8218         | 180   | 1.4                             | 1300   | 0.5                             | 137                    | 129                     | 0.10   | 5.2   | 0.056                                     |
| UZ 8119        | UZ 8219         | 190   | 1.3                             | 1400   | 0.5                             | 144                    | 137                     | 0.10   | 5.0   | 0.056                                     |
| UZ 8120        | UZ 8220         | 200   | 1.2                             | 1500   | 0.5                             | 152                    | 144                     | 0.10   | 4.7   | 0.056                                     |

4

†All zener voltages are measured with an automated test set using a 35 millisecond test time. Longer or shorter test times will have a corresponding effect on the measured value due to heating effects.

§Zener impedance is derived from the 60-cycle AC voltage created when AC current with RMS value of 10% of DC zener test current is superimposed on the test current.

\*Ratings are based on free air. T<sub>A</sub> is 25°C. For use at 1.5 watts see derating curve.

‡Figures shown are for a peak sinusoidal surge current of 8.3 ms duration using 60 cycle AC. The 8.3 ms square pulse rating is 71% of the value shown.