



High-reliability discrete products  
and engineering services since 1977

# 1N5063-1N4097, MZ806-MZ210

## 3 WATT ZENER DIODES

### FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

### MAXIMUM RATINGS

| Rating                | Value        |
|-----------------------|--------------|
| Operating Temperature | -65 to 175°C |
| Storage Temperature   | -65 to 200°C |

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

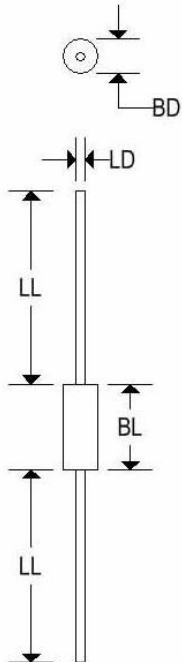
| Type<br>(note 1)    |                      | Electrical Specifications @ 25°C |              |                                 |               |                |                         |                        | Maximum Ratings            |                       |
|---------------------|----------------------|----------------------------------|--------------|---------------------------------|---------------|----------------|-------------------------|------------------------|----------------------------|-----------------------|
|                     |                      | Nominal Zener Voltage            | Test Current | Maximum Reverse Leakage Current |               |                | Maximum Zener Impedance | Typ. Temp. Coefficient | Maximum Continuous Current | Maximum Surge Current |
|                     |                      | $V_Z @ I_{ZT}$                   | $I_{ZT}$     | $I_R @ V_R$                     | $\pm 5\% V_R$ | $\pm 10\% V_R$ | $Z_Z @ I_{ZT}$          | $T_C @ I_{ZT}$         | $I_{ZM}$                   | $I_S$                 |
| $\pm 5\%$ Tolerance | $\pm 10\%$ Tolerance | Volts                            | mA           | $\mu\text{A}$                   | Volts         | Volts          | Ohms                    | %/°C                   | mA                         | Amps                  |
| 1N5063              | MZ806                | 6.8                              | 75           | 500                             | 5.2           | 4.9            | 2                       | .04                    | 440                        | 10.0                  |
| 1N5064              | MZ807                | 7.5                              | 75           | 300                             | 5.7           | 5.4            | 2                       | .04                    | 400                        | 8.00                  |
| 1N5065              | MZ808                | 8.2                              | 75           | 200                             | 6.2           | 5.9            | 3                       | .05                    | 360                        | 7.00                  |
| 1N5066              | MZ809                | 9.1                              | 75           | 100                             | 6.9           | 6.6            | 3                       | .05                    | 330                        | 6.00                  |
| 1N5067              | MZ810                | 10.0                             | 75           | 40                              | 7.6           | 7.2            | 4                       | .06                    | 300                        | 5.00                  |
| 1N4883              | MZ812                | 12                               | 65           | 10                              | 9.1           | 8.6            | 5                       | .07                    | 250                        | 4.00                  |
| 1N5069              | MZ813                | 13                               | 50           | 10                              | 9.9           | 9.3            | 6                       | .07                    | 230                        | 4.00                  |
| 1N5070              | MZ814                | 14                               | 50           | 10                              | 10.6          | 10.1           | 6                       | .07                    | 210                        | 4.00                  |
| 1N5071              | MZ815                | 15                               | 50           | 10                              | 11.4          | 10.8           | 6                       | .07                    | 200                        | 3.00                  |
| 1N5072              | MZ816                | 16                               | 50           | 5                               | 12.2          | 11.5           | 7                       | .07                    | 185                        | 3.00                  |
| 1N5073              | MZ818                | 18                               | 40           | 5                               | 13.7          | 12.9           | 8                       | .08                    | 170                        | 2.00                  |
| 1N4884              | MZ820                | 20                               | 40           | 5                               | 15.2          | 14.4           | 9                       | .08                    | 150                        | 2.00                  |
| 1N5074              | MZ822                | 22                               | 30           | 5                               | 16.7          | 15.8           | 10                      | .08                    | 135                        | 2.00                  |
| 1N5075              | MZ824                | 24                               | 30           | 5                               | 18.2          | 17.3           | 10                      | .08                    | 125                        | 1.50                  |
| 1N5076              | MZ827                | 27                               | 25           | 1                               | 20.6          | 19.4           | 12                      | .09                    | 110                        | 1.50                  |
| 1N5077              | MZ830                | 30                               | 25           | 1                               | 22.8          | 21.6           | 15                      | .090                   | 100                        | 1.50                  |
| 1N5078              | MZ833                | 33                               | 20           | 1                               | 25.1          | 23.7           | 21                      | .090                   | 90                         | 1.20                  |
| 1N5079              | MZ836                | 36                               | 20           | 1                               | 27.4          | 25.9           | 21                      | .090                   | 85                         | 1.00                  |
| 1N5081              | MZ840                | 40                               | 20           | 1                               | 30.4          | 28.8           | 27                      | .095                   | 75                         | 1.00                  |
| 1N5083              | MZ845                | 45                               | 15           | 1                               | 34.2          | 32.4           | 37                      | .095                   | 65                         | 0.80                  |
| 1N5085              | MZ850                | 50                               | 15           | 1                               | 38.0          | 36.0           | 50                      | .095                   | 60                         | 0.80                  |
| 1N5087              | MZ856                | 56                               | 10           | 1                               | 42.6          | 40.3           | 70                      | .095                   | 55                         | 0.70                  |
| 1N5088              | MZ860                | 60                               | 10           | 1                               | 45.7          | 43.2           | 70                      | .095                   | 50                         | 0.60                  |
| 1N5091              | MZ870                | 70                               | 10           | 1                               | 53.3          | 50.5           | 90                      | .095                   | 45                         | 0.60                  |
| 1N5092              | MZ875                | 75                               | 10           | 1                               | 56.0          | 54.0           | 100                     | .095                   | 40                         | 0.50                  |

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Type<br>(note 1)    |                      | Electrical Specifications @ $25^\circ\text{C}$ |              |                                 |               |                |                         |                        | Maximum Ratings            |                       |
|---------------------|----------------------|------------------------------------------------|--------------|---------------------------------|---------------|----------------|-------------------------|------------------------|----------------------------|-----------------------|
|                     |                      | Nominal Zener Voltage                          | Test Current | Maximum Reverse Leakage Current |               |                | Maximum Zener Impedance | Typ. Temp. Coefficient | Maximum Continuous Current | Maximum Surge Current |
|                     |                      | $V_Z @ I_{ZT}$                                 | $I_{ZT}$     | $I_R @ V_R$                     | $\pm 5\% V_R$ | $\pm 10\% V_R$ | $Z_Z @ I_{ZT}$          | $T_C @ I_{ZT}$         | $I_{ZM}$                   | $I_S$                 |
| $\pm 5\%$ Tolerance | $\pm 10\%$ Tolerance | Volts                                          | mA           | $\mu\text{A}$                   | Volts         | Volts          | Ohms                    | $\%/^\circ\text{C}$    | mA                         | Amps                  |
| 1N5093              | MZ880                | 80                                             | 10           | 1                               | 60.8          | 57.7           | 115                     | .095                   | 35                         | 0.40                  |
| 1N4096              | MZ890                | 90                                             | 8.0          | 1                               | 68.5          | 64.8           | 150                     | .095                   | 30                         | 0.40                  |
| 1N4097              | MZ210                | 100                                            | 5.0          | 100                             | 76.0          | 72.0           | 175                     | .100                   | 30                         | 0.4                   |

### MECHANICAL CHARACTERISTICS

|           |                             |
|-----------|-----------------------------|
| Case:     | Digi A                      |
| Marking:  | Body painted, alpha-numeric |
| Polarity: | Cathode band                |



|    | Digi A |       |             |       |
|----|--------|-------|-------------|-------|
|    | Inches |       | Millimeters |       |
|    | Min    | Max   | Min         | Max   |
| BD | -      | 0.095 | -           | 2.413 |
| BL | -      | 0.180 | -           | 4.572 |
| LD | 0.028  | 0.032 | 0.711       | 0.813 |
| LL | 0.700  | -     | 17.800      | -     |