

# MZ4728 - MZ4764 MZ1110 - MZ1200

**V<sub>Z</sub> : 3.3 - 200 Volts**  
**P<sub>D</sub> : 1 Watt**

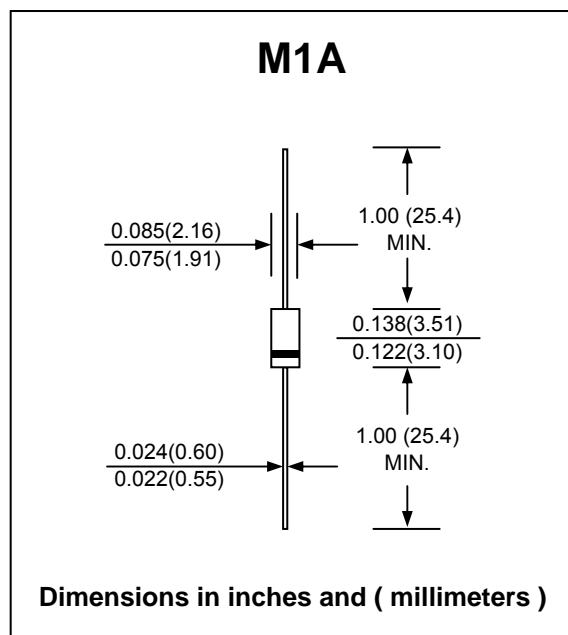
## FEATURES :

- \* Complete voltage range 3.3 to 200 Volts
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current
- \* **Pb / RoHS Free**

## MECHANICAL DATA :

- \* Case : M1A Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.20 gram (approximately)

## SILICON ZENER DIODES



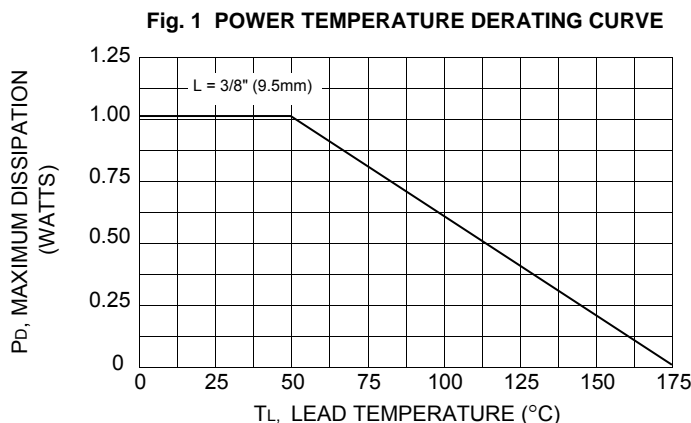
## MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                     | Symbol           | Value         | Unit  |
|------------------------------------------------------------|------------------|---------------|-------|
| DC Power Dissipation at T <sub>L</sub> = 50 °C (Note1)     | P <sub>D</sub>   | 1.0           | Watt  |
| Maximum Forward Voltage at I <sub>F</sub> = 200 mA         | V <sub>F</sub>   | 1.2           | Volts |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | R <sub>θJA</sub> | 170           | K / W |
| Junction Temperature Range                                 | T <sub>J</sub>   | - 55 to + 175 | °C    |
| Storage Temperature Range                                  | T <sub>STG</sub> | - 55 to + 175 | °C    |

### Notes :

- (1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body
- (2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.



## ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

| Type No. | Nominal Zener Voltage         |                  | Maximum Zener Impedance             |                                     |                  | Maximum Reverse Leakage Current |              | Maximum DC Zener Current | Maximum Surge Current    |
|----------|-------------------------------|------------------|-------------------------------------|-------------------------------------|------------------|---------------------------------|--------------|--------------------------|--------------------------|
|          | $V_Z^{(1)}$ @ $I_{ZT}$<br>(V) | $I_{ZT}$<br>(mA) | $Z_{ZT}$ @ $I_{ZT}$<br>( $\Omega$ ) | $Z_{ZK}$ @ $I_{ZK}$<br>( $\Omega$ ) | $I_{ZK}$<br>(mA) | $I_R$ @ $V_R$<br>( $\mu$ A)     | $V_R$<br>(V) | $I_{ZM}$<br>(mA)         | $I_{RM}^{(2)}$<br>(mApk) |
| MZ4728   | 3.3                           | 76.0             | 10                                  | 400                                 | 1.0              | 100                             | 1.0          | 276                      | 1380                     |
| MZ4729   | 3.6                           | 69.0             | 10                                  | 400                                 | 1.0              | 100                             | 1.0          | 252                      | 1260                     |
| MZ4730   | 3.9                           | 64.0             | 9.0                                 | 400                                 | 1.0              | 50                              | 1.0          | 234                      | 1190                     |
| MZ4731   | 4.3                           | 58.0             | 9.0                                 | 400                                 | 1.0              | 10                              | 1.0          | 217                      | 1070                     |
| MZ4732   | 4.7                           | 53.0             | 8.0                                 | 500                                 | 1.0              | 10                              | 1.0          | 193                      | 970                      |
| MZ4733   | 5.1                           | 49.0             | 7.0                                 | 550                                 | 1.0              | 10                              | 1.0          | 178                      | 890                      |
| MZ4734   | 5.6                           | 45.0             | 5.0                                 | 600                                 | 1.0              | 10                              | 2.0          | 162                      | 810                      |
| MZ4735   | 6.2                           | 41.0             | 2.0                                 | 700                                 | 1.0              | 10                              | 3.0          | 146                      | 730                      |
| MZ4736   | 6.8                           | 37.0             | 3.5                                 | 700                                 | 1.0              | 10                              | 4.0          | 133                      | 660                      |
| MZ4737   | 7.5                           | 34.0             | 4.0                                 | 700                                 | 0.5              | 10                              | 5.0          | 121                      | 605                      |
| MZ4738   | 8.2                           | 31.0             | 4.5                                 | 700                                 | 0.5              | 10                              | 6.0          | 110                      | 550                      |
| MZ4739   | 9.1                           | 28.0             | 5.0                                 | 700                                 | 0.5              | 10                              | 7.0          | 100                      | 500                      |
| MZ4740   | 10                            | 25.0             | 7.0                                 | 700                                 | 0.25             | 10                              | 7.6          | 91                       | 454                      |
| MZ4741   | 11                            | 23.0             | 8.0                                 | 700                                 | 0.25             | 5.0                             | 8.4          | 83                       | 414                      |
| MZ4742   | 12                            | 21.0             | 9.0                                 | 700                                 | 0.25             | 5.0                             | 9.1          | 76                       | 380                      |
| MZ4743   | 13                            | 19.0             | 10                                  | 700                                 | 0.25             | 5.0                             | 9.9          | 69                       | 344                      |
| MZ4744   | 15                            | 17.0             | 14                                  | 700                                 | 0.25             | 5.0                             | 11.4         | 61                       | 305                      |
| MZ4745   | 16                            | 15.5             | 16                                  | 700                                 | 0.25             | 5.0                             | 12.2         | 57                       | 285                      |
| MZ4746   | 18                            | 14.0             | 20                                  | 750                                 | 0.25             | 5.0                             | 13.7         | 50                       | 250                      |
| MZ4747   | 20                            | 12.5             | 22                                  | 750                                 | 0.25             | 5.0                             | 15.2         | 45                       | 225                      |
| MZ4748   | 22                            | 11.5             | 23                                  | 750                                 | 0.25             | 5.0                             | 16.7         | 41                       | 205                      |
| MZ4749   | 24                            | 10.5             | 25                                  | 750                                 | 0.25             | 5.0                             | 18.2         | 38                       | 190                      |
| MZ4750   | 27                            | 9.5              | 35                                  | 750                                 | 0.25             | 5.0                             | 20.6         | 34                       | 170                      |
| MZ4751   | 30                            | 8.5              | 40                                  | 1000                                | 0.25             | 5.0                             | 22.8         | 30                       | 150                      |
| MZ4752   | 33                            | 7.5              | 45                                  | 1000                                | 0.25             | 5.0                             | 25.1         | 27                       | 135                      |
| MZ4753   | 36                            | 7.0              | 50                                  | 1000                                | 0.25             | 5.0                             | 27.4         | 25                       | 125                      |
| MZ4754   | 39                            | 6.5              | 60                                  | 1000                                | 0.25             | 5.0                             | 29.7         | 23                       | 115                      |
| MZ4755   | 43                            | 6.0              | 70                                  | 1500                                | 0.25             | 5.0                             | 32.7         | 22                       | 110                      |
| MZ4756   | 47                            | 5.5              | 80                                  | 1500                                | 0.25             | 5.0                             | 35.8         | 19                       | 95                       |
| MZ4757   | 51                            | 5.0              | 95                                  | 1500                                | 0.25             | 5.0                             | 38.8         | 18                       | 90                       |
| MZ4758   | 56                            | 4.5              | 110                                 | 2000                                | 0.25             | 5.0                             | 42.6         | 16                       | 80                       |
| MZ4759   | 62                            | 4.0              | 125                                 | 2000                                | 0.25             | 5.0                             | 47.1         | 14                       | 70                       |
| MZ4760   | 68                            | 3.7              | 150                                 | 2000                                | 0.25             | 5.0                             | 51.7         | 13                       | 65                       |
| MZ4761   | 75                            | 3.3              | 175                                 | 2000                                | 0.25             | 5.0                             | 56.0         | 12                       | 60                       |
| MZ4762   | 82                            | 3.0              | 200                                 | 3000                                | 0.25             | 5.0                             | 62.2         | 11                       | 55                       |
| MZ4763   | 91                            | 2.8              | 250                                 | 3000                                | 0.25             | 5.0                             | 69.2         | 10                       | 50                       |
| MZ4764   | 100                           | 2.5              | 350                                 | 3000                                | 0.25             | 5.0                             | 76.0         | 9.0                      | 45                       |
| MZ1110   | 110                           | 2.3              | 450                                 | 4000                                | 0.25             | 5.0                             | 83.6         | 8.6                      | 40                       |
| MZ1120   | 120                           | 2.0              | 550                                 | 4500                                | 0.25             | 5.0                             | 91.2         | 7.8                      | 37                       |
| MZ1130   | 130                           | 1.9              | 700                                 | 5000                                | 0.25             | 5.0                             | 98.8         | 7.0                      | 34                       |
| MZ1150   | 150                           | 1.7              | 1000                                | 6000                                | 0.25             | 5.0                             | 114.0        | 6.4                      | 30                       |
| MZ1160   | 160                           | 1.6              | 1100                                | 6500                                | 0.25             | 5.0                             | 121.6        | 5.8                      | 28                       |
| MZ1180   | 180                           | 1.4              | 1200                                | 7000                                | 0.25             | 5.0                             | 136.8        | 5.2                      | 25                       |
| MZ1200   | 200                           | 1.2              | 1900                                | 9990                                | 0.25             | 5.0                             | 152.0        | 4.7                      | 22                       |

### Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 10\%$ .  
Suffix "A" indicates  $\pm 5\%$  tolerance, suffix "C" indicates  $\pm 2\%$  tolerance.
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on  $I_{ZT}$  per JEDEC Method