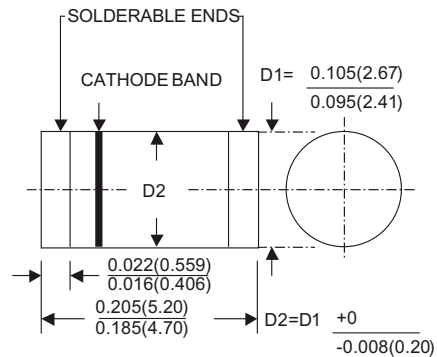


# ZM4728A thru ZM4764A

## SILICON PLANAR POWER ZENER DIODES



DO-213AB / MELF



Dimension in inches (millimeters)

### FEATURES

- For use in stabilizing and clipping circuits with high power Rating. Standard Zener Voltage tolerance is  $\pm 10\%$ . Add suffix "A" for  $\pm 5\%$  tolerance and suffix "B" for  $\pm 2\%$  tolerance. Other tolerances available are upon request.

### MECHANICAL DATA

These diodes are also available in do-41 case with the type Designation 1N4728...1N4767

These diodes are delivered taped.  
Details see "Taping"

### Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ )

|                                                                   | SYMBOL    | VALUE           | UNITS            |
|-------------------------------------------------------------------|-----------|-----------------|------------------|
| Zener Current see Table "Characteristics"                         |           |                 |                  |
| Power Dissipation                                                 | $P_{tot}$ | 1 <sup>1)</sup> | W                |
| Junction Temperature                                              | $T_J$     | 175             | $^\circ\text{C}$ |
| Storage Temperature range                                         | $T_S$     | -65 to +175     | $^\circ\text{C}$ |
| 1) Valid provided that electrodes are kept at ambient temperature |           |                 |                  |

### Characteristics at $T_{amb} = 25^\circ\text{C}$

|                                                                   | SYMBOL    | Min | Typ | Max               | UNITS |
|-------------------------------------------------------------------|-----------|-----|-----|-------------------|-------|
| Thermal Resistance Junction to Ambient Air                        | $R_{thA}$ |     |     | 170 <sup>1)</sup> | K/W   |
| Forward Voltage at $I_F = 200\text{mA}$                           | $V_F$     |     |     | 1.2               | V     |
| 1) Valid provided that electrodes are kept at ambient temperature |           |     |     |                   |       |

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

| Type    | Nominal Zener Voltage <sup>3)</sup> | Test Current | Maximum Zener Impedance <sup>1)</sup> |                  |                | Maximum Reverse Leakage Current |            | Surge Current                           | Maximum Regulator Current <sup>2)</sup> |
|---------|-------------------------------------|--------------|---------------------------------------|------------------|----------------|---------------------------------|------------|-----------------------------------------|-----------------------------------------|
|         | at $I_{ZT}$<br>$V_Z$ V              | $I_{ZT}$ mA  | at $I_{ZT}$<br>$V_Z$ $\Omega$         | $V_Z$ K $\Omega$ | at $I_{ZK}$ mA | $I_R$ $\mu$ A                   | at $V_R$ V | At $T_A=25^{\circ}\text{C}$<br>$I_R$ mA | $I_{ZM}$ mA                             |
| ZM4728A | 3.3                                 | 76           | 10                                    | 400              | 1              | 150                             | 1          | 1375                                    | 275                                     |
| ZM4729A | 3.6                                 | 79           | 10                                    | 400              | 1              | 100                             | 1          | 1260                                    | 252                                     |
| ZM4730A | 3.9                                 | 64           | 9                                     | 400              | 1              | 100                             | 1          | 1190                                    | 234                                     |
| ZM4731A | 4.3                                 | 58           | 9                                     | 400              | 1              | 50                              | 1          | 1070                                    | 217                                     |
| ZM4732A | 4.7                                 | 53           | 8                                     | 500              | 1              | 10                              | 1          | 970                                     | 193                                     |
| ZM4733A | 5.1                                 | 49           | 7                                     | 550              | 1              | 10                              | 1          | 890                                     | 178                                     |
| ZM4734A | 5.6                                 | 45           | 5                                     | 600              | 1              | 10                              | 2          | 810                                     | 162                                     |
| ZM4735A | 6.2                                 | 41           | 2                                     | 700              | 1              | 10                              | 3          | 730                                     | 146                                     |
| ZM4736A | 6.8                                 | 37           | 3.5                                   | 700              | 1              | 10                              | 4          | 660                                     | 133                                     |
| ZM4737A | 7.5                                 | 34           | 4.0                                   | 700              | 0.5            | 10                              | 5          | 605                                     | 121                                     |
| ZM4738A | 8.2                                 | 31           | 4.5                                   | 700              | 0.5            | 10                              | 6          | 550                                     | 110                                     |
| ZM4739A | 9.1                                 | 28           | 5.0                                   | 700              | 0.5            | 10                              | 7          | 500                                     | 100                                     |
| ZM4740A | 10                                  | 25           | 7                                     | 700              | 0.25           | 10                              | 7.6        | 454                                     | 91                                      |
| ZM4741A | 11                                  | 23           | 8                                     | 700              | 0.25           | 5                               | 8.4        | 414                                     | 83                                      |
| ZM4742A | 12                                  | 21           | 9                                     | 700              | 0.25           | 5                               | 9.1        | 380                                     | 76                                      |
| ZM4743A | 13                                  | 19           | 10                                    | 700              | 0.25           | 5                               | 9.9        | 344                                     | 69                                      |
| ZM4744A | 15                                  | 17           | 14                                    | 700              | 0.25           | 5                               | 11.4       | 304                                     | 61                                      |
| ZM4745A | 16                                  | 15.5         | 16                                    | 700              | 0.25           | 5                               | 12.2       | 285                                     | 57                                      |
| ZM4746A | 18                                  | 14           | 20                                    | 750              | 0.25           | 5                               | 13.7       | 250                                     | 50                                      |
| ZM4747A | 20                                  | 12.5         | 22                                    | 750              | 0.25           | 5                               | 15.2       | 225                                     | 45                                      |
| ZM4748A | 22                                  | 11.5         | 23                                    | 750              | 0.25           | 5                               | 16.7       | 205                                     | 41                                      |
| ZM4749A | 24                                  | 10.5         | 25                                    | 750              | 0.25           | 5                               | 18.2       | 190                                     | 38                                      |
| ZM4750A | 27                                  | 9.5          | 35                                    | 750              | 0.25           | 5                               | 20.6       | 170                                     | 34                                      |
| ZM4751A | 30                                  | 8.5          | 40                                    | 1000             | 0.25           | 5                               | 22.8       | 150                                     | 30                                      |
| ZM4752A | 33                                  | 7.5          | 45                                    | 1000             | 0.25           | 5                               | 25.1       | 135                                     | 27                                      |
| ZM4753A | 36                                  | 7.0          | 50                                    | 1000             | 0.25           | 5                               | 27.4       | 125                                     | 25                                      |
| ZM4754A | 39                                  | 6.5          | 60                                    | 1000             | 0.25           | 5                               | 29.7       | 115                                     | 23                                      |
| ZM4755A | 43                                  | 6.0          | 70                                    | 1500             | 0.25           | 5                               | 32.7       | 110                                     | 22                                      |
| ZM4756A | 47                                  | 5.5          | 80                                    | 1500             | 0.25           | 5                               | 35.8       | 95                                      | 19                                      |
| ZM4757A | 51                                  | 5.0          | 95                                    | 1500             | 0.25           | 5                               | 38.8       | 90                                      | 18                                      |
| ZM4758A | 56                                  | 4.5          | 110                                   | 2000             | 0.25           | 5                               | 42.6       | 80                                      | 16                                      |
| ZM4759A | 62                                  | 4.0          | 125                                   | 2000             | 0.25           | 5                               | 47.1       | 70                                      | 14                                      |
| ZM4760A | 68                                  | 3.7          | 150                                   | 2000             | 0.25           | 5                               | 51.7       | 65                                      | 134                                     |
| ZM4761A | 75                                  | 3.3          | 175                                   | 2000             | 0.25           | 5                               | 56.0       | 60                                      | 12                                      |
| ZM4762A | 82                                  | 3.0          | 200                                   | 3000             | 0.25           | 5                               | 62.2       | 55                                      | 11                                      |
| ZM4763A | 91                                  | 2.8          | 250                                   | 3000             | 0.25           | 5                               | 69.2       | 50                                      | 10                                      |
| ZM4764A | 100                                 | 2.5          | 350                                   | 3000             | 0.25           | 5                               | 76         | 45                                      | 9                                       |

1) The Zener Impedance is derived from the 60Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

2) Valid provided that electrodes are kept at ambient temperature.

3) Measured under thermal equilibrium and DC test conditions.

# ZM4728A thru ZM4764A

## SILICON PLANAR POWER ZENER DIODES

### RATING AND CHARACTERISTICS CURVES ZM4728 THRU ZM4764

