

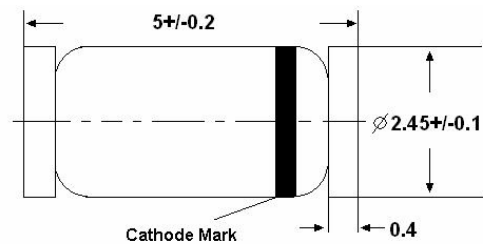
# ZM 4728...ZM 4764

## SILICON PLANAR POWER ZENER DIODES

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.

These diodes are also available in DO-41 case with the type designation 1N4728...1N4764

LL-41



Glass case MELF

Dimensions in mm

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

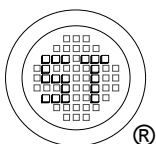
|   | Symbol           | Value           | Unit             |
|---|------------------|-----------------|------------------|
| Zener Current see Table "Characteristics" |                  |                 |                  |
| Power Dissipation                         | $P_{\text{tot}}$ | 1 <sup>1)</sup> | W                |
| Junction Temperature                      | $T_j$            | 175             | $^\circ\text{C}$ |
| Storage Temperature Range                 | $T_s$            | -65 to +175     | $^\circ\text{C}$ |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.

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

|  | Symbol           | Min. | Typ. | Max.              | Unit |
|--|------------------|------|------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | $R_{\text{thA}}$ | -    | -    | 170 <sup>1)</sup> | K/W  |
| Forward Voltage at $I_F = 200\text{mA}$    | $V_F$            | -    | -    | 1.2               | V    |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.



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ISO/TS 16949 : 2002  
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Dated : 10/05/2005

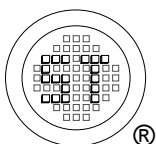
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| TYPE   | Nominal Zener voltage <sup>3)</sup> | Test current<br>$I_{ZT}$ mA | Maximum Zener Impedance <sup>1)</sup> |                  |                   | Maximum reverse leakage current |               | Surge current<br>at<br>$T_A = 25^\circ\text{C}$<br>$I_R$ mA | Maximum regulator current <sup>2)</sup><br>$I_{ZM}$ mA |
|--------|-------------------------------------|-----------------------------|---------------------------------------|------------------|-------------------|---------------------------------|---------------|---|--|
|        | at<br>$I_{ZT}$<br>$V_Z$ V           |                             | at<br>$I_{ZT}$<br>$V_Z$ $\Omega$      | $V_Z$ k $\Omega$ | at<br>$I_{ZK}$ mA | $I_R$ $\mu$ A                   | at<br>$V_R$ V |   |  |
| ZM4728 | 3.3                                 | 76                          | 10                                    | 400              | 1                 | 150                             | 1             | 1375  | 275  |
| ZM4729 | 3.6                                 | 69                          | 10                                    | 400              | 1                 | 100                             | 1             | 1260  | 252  |
| ZM4730 | 3.9                                 | 64                          | 9                                     | 400              | 1                 | 100                             | 1             | 1190  | 234  |
| ZM4731 | 4.3                                 | 58                          | 9                                     | 400              | 1                 | 50                              | 1             | 1070  | 217  |
| ZM4732 | 4.7                                 | 53                          | 8                                     | 500              | 1                 | 10                              | 1             | 970   | 193  |
| ZM4733 | 5.1                                 | 49                          | 7                                     | 550              | 1                 | 10                              | 1             | 890   | 178  |
| ZM4734 | 5.6                                 | 45                          | 5                                     | 600              | 1                 | 10                              | 2             | 810   | 162  |
| ZM4735 | 6.2                                 | 41                          | 2                                     | 700              | 1                 | 10                              | 3             | 730   | 146  |
| ZM4736 | 6.8                                 | 37                          | 3.5                                   | 700              | 1                 | 10                              | 4             | 660   | 133  |
| ZM4737 | 7.5                                 | 34                          | 4.0                                   | 700              | 0.5               | 10                              | 5             | 605   | 121  |
| ZM4738 | 8.2                                 | 31                          | 4.5                                   | 700              | 0.5               | 10                              | 6             | 550   | 110  |
| ZM4739 | 9.1                                 | 28                          | 5.0                                   | 700              | 0.5               | 10                              | 7             | 500   | 100  |
| ZM4740 | 10                                  | 25                          | 7                                     | 700              | 0.25              | 10                              | 7.6           | 454   | 91   |
| ZM4741 | 11                                  | 23                          | 8                                     | 700              | 0.25              | 5                               | 8.4           | 414   | 83   |
| ZM4742 | 12                                  | 21                          | 9                                     | 700              | 0.25              | 5                               | 9.1           | 380   | 76   |
| ZM4743 | 13                                  | 19                          | 10                                    | 700              | 0.25              | 5                               | 9.9           | 344   | 69   |
| ZM4744 | 15                                  | 17                          | 14                                    | 700              | 0.25              | 5                               | 11.4          | 304   | 61   |
| ZM4745 | 16                                  | 15.5                        | 16                                    | 700              | 0.25              | 5                               | 12.2          | 285   | 57   |
| ZM4746 | 18                                  | 14                          | 20                                    | 750              | 0.25              | 5                               | 13.7          | 250   | 50   |
| ZM4747 | 20                                  | 12.5                        | 22                                    | 750              | 0.25              | 5                               | 15.2          | 225   | 45   |
| ZM4748 | 22                                  | 11.5                        | 23                                    | 750              | 0.25              | 5                               | 16.7          | 205   | 41   |
| ZM4749 | 24                                  | 10.5                        | 25                                    | 750              | 0.25              | 5                               | 18.2          | 190   | 38   |
| ZM4750 | 27                                  | 9.5                         | 35                                    | 750              | 0.25              | 5                               | 20.6          | 170   | 34   |
| ZM4751 | 30                                  | 8.5                         | 40                                    | 1000             | 0.25              | 5                               | 22.8          | 150   | 30   |
| ZM4752 | 33                                  | 7.5                         | 45                                    | 1000             | 0.25              | 5                               | 25.1          | 135   | 27   |
| ZM4753 | 36                                  | 7.0                         | 50                                    | 1000             | 0.25              | 5                               | 27.4          | 125   | 25   |
| ZM4754 | 39                                  | 6.5                         | 60                                    | 1000             | 0.25              | 5                               | 29.7          | 115   | 23   |
| ZM4755 | 43                                  | 6.0                         | 70                                    | 1500             | 0.25              | 5                               | 32.7          | 110   | 22   |
| ZM4756 | 47                                  | 5.5                         | 80                                    | 1500             | 0.25              | 5                               | 35.8          | 95  | 19   |
| ZM4757 | 51                                  | 5.0                         | 95                                    | 1500             | 0.25              | 5                               | 38.8          | 90  | 18   |
| ZM4758 | 56                                  | 4.5                         | 110                                   | 2000             | 0.25              | 5                               | 42.6          | 80  | 16   |
| ZM4759 | 62                                  | 4.0                         | 125                                   | 2000             | 0.25              | 5                               | 47.1          | 70  | 14   |
| ZM4760 | 68                                  | 3.7                         | 150                                   | 2000             | 0.25              | 5                               | 51.7          | 65  | 13   |
| ZM4761 | 75                                  | 3.3                         | 175                                   | 2000             | 0.25              | 5                               | 56.0          | 60  | 12   |
| ZM4762 | 82                                  | 3.0                         | 200                                   | 3000             | 0.25              | 5                               | 62.2          | 55  | 11   |
| ZM4763 | 91                                  | 2.8                         | 250                                   | 3000             | 0.25              | 5                               | 69.2          | 50  | 10   |
| ZM4764 | 100                                 | 2.5                         | 350                                   | 3000             | 0.25              | 5                               | 76            | 45  | 9  |

1) The Zener Impedance is derived from the 60 Hz 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.



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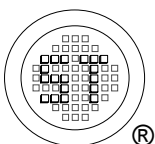
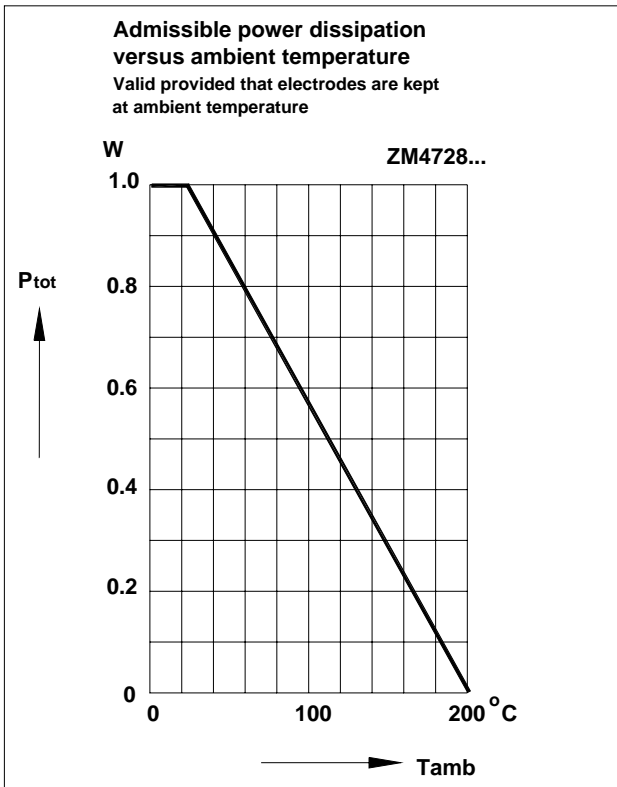
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4) Tested with pulses  $t_p = 20$  ms.

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