

# Zener Diodes

## 1N4728A - 1N4758A

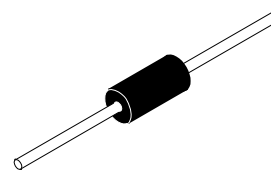
### ABSOLUTE MAXIMUM RATINGS (Note 1)

T<sub>a</sub> = 25°C unless otherwise noted

| Symbol                            | Parameter                                                        | Value       | Unit  |
|-----------------------------------|------------------------------------------------------------------|-------------|-------|
| P <sub>D</sub>                    | Power Dissipation<br>@ T <sub>L</sub> ≤ 50°C, Lead Length = 3/8" | 1.0         | W     |
|                                   | Derate above 50°C                                                | 6.67        | mW/°C |
| T <sub>J</sub> , T <sub>STG</sub> | Operating and Storage Temperature<br>Range                       | -65 to +200 | °C    |

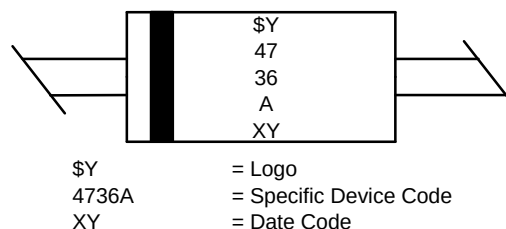
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. These ratings are limiting values above which the serviceability of the diode may be impaired.



AXIAL LEAD  
CASE 017AH

### MARKING DIAGRAM



### ORDERING INFORMATION

See detailed ordering and shipping information on page 3 of this data sheet.

# 1N4728A – 1N4758A

**ELECTRICAL CHARACTERISTICS**  $T_a = 25^\circ\text{C}$  unless otherwise noted

| Device  | $V_Z$ (V) @ $I_Z$ (Note 2) |      |       | Test Current $I_Z$ (mA) | Max. Zener Impedance       |                                  |               | Leakage Current         |           | Non-Repetitive Peak Reverse Current $I_{ZSM}$ (mA) (Note 3) |
|---------|----------------------------|------|-------|-------------------------|----------------------------|----------------------------------|---------------|-------------------------|-----------|-------------------------------------------------------------|
|         | Min.                       | Typ. | Max.  |                         | $Z_Z$ @ $I_Z$ ( $\Omega$ ) | $Z_{ZK}$ @ $I_{ZK}$ ( $\Omega$ ) | $I_{ZK}$ (mA) | $I_R$ ( $\mu\text{A}$ ) | $V_R$ (V) |                                                             |
| 1N4728A | 3.135                      | 3.3  | 3.465 | 76                      | 10                         | 400                              | 1             | 100                     | 1         | 1380                                                        |
| 1N4732A | 4.465                      | 4.7  | 4.935 | 53                      | 8                          | 500                              | 1             | 10                      | 1         | 970                                                         |
| 1N4733A | 4.845                      | 5.1  | 5.355 | 49                      | 7                          | 550                              | 1             | 10                      | 1         | 890                                                         |
| 1N4734A | 5.32                       | 5.6  | 5.88  | 45                      | 5                          | 600                              | 1             | 10                      | 2         | 810                                                         |
| 1N4735A | 5.89                       | 6.2  | 6.51  | 41                      | 2                          | 700                              | 1             | 10                      | 3         | 730                                                         |
| 1N4736A | 6.46                       | 6.8  | 7.14  | 37                      | 3.5                        | 700                              | 1             | 10                      | 4         | 660                                                         |
| 1N4737A | 7.125                      | 7.5  | 7.875 | 34                      | 4                          | 700                              | 0.5           | 10                      | 5         | 605                                                         |
| 1N4738A | 7.79                       | 8.2  | 8.61  | 31                      | 4.5                        | 700                              | 0.5           | 10                      | 6         | 550                                                         |
| 1N4739A | 8.645                      | 9.1  | 9.555 | 28                      | 5                          | 700                              | 0.5           | 10                      | 7         | 500                                                         |
| 1N4740A | 9.5                        | 10   | 10.5  | 25                      | 7                          | 700                              | 0.25          | 10                      | 7.6       | 454                                                         |
| 1N4741A | 10.45                      | 11   | 11.55 | 23                      | 8                          | 700                              | 0.25          | 5                       | 8.4       | 414                                                         |
| 1N4742A | 11.4                       | 12   | 12.6  | 21                      | 9                          | 700                              | 0.25          | 5                       | 9.1       | 380                                                         |
| 1N4743A | 12.35                      | 13   | 13.65 | 19                      | 10                         | 700                              | 0.25          | 5                       | 9.9       | 344                                                         |
| 1N4744A | 14.25                      | 15   | 15.75 | 17                      | 14                         | 700                              | 0.25          | 5                       | 11.4      | 304                                                         |
| 1N4745A | 15.2                       | 16   | 16.8  | 15.5                    | 16                         | 700                              | 0.25          | 5                       | 12.2      | 285                                                         |
| 1N4746A | 17.1                       | 18   | 18.9  | 14                      | 20                         | 750                              | 0.25          | 5                       | 13.7      | 250                                                         |
| 1N4747A | 19                         | 20   | 21    | 12.5                    | 22                         | 750                              | 0.25          | 5                       | 15.2      | 225                                                         |
| 1N4748A | 20.9                       | 22   | 23.1  | 11.5                    | 23                         | 750                              | 0.25          | 5                       | 16.7      | 205                                                         |
| 1N4749A | 22.8                       | 24   | 25.2  | 10.5                    | 25                         | 750                              | 0.25          | 5                       | 18.2      | 190                                                         |
| 1N4750A | 25.65                      | 27   | 28.35 | 9.5                     | 35                         | 750                              | 0.25          | 5                       | 20.6      | 170                                                         |
| 1N4751A | 28.5                       | 30   | 31.5  | 8.5                     | 40                         | 1000                             | 0.25          | 5                       | 22.8      | 150                                                         |
| 1N4752A | 31.35                      | 33   | 34.65 | 7.5                     | 45                         | 1000                             | 0.25          | 5                       | 25.1      | 135                                                         |
| 1N4753A | 34.2                       | 36   | 37.8  | 7                       | 50                         | 1000                             | 0.25          | 5                       | 27.4      | 125                                                         |
| 1N4754A | 37.05                      | 39   | 40.95 | 6.5                     | 60                         | 1000                             | 0.25          | 5                       | 29.7      | 115                                                         |
| 1N4755A | 40.85                      | 43   | 45.15 | 6                       | 70                         | 1500                             | 0.25          | 5                       | 32.7      | 110                                                         |
| 1N4756A | 44.65                      | 47   | 49.35 | 5.5                     | 80                         | 1500                             | 0.25          | 5                       | 35.8      | 95                                                          |
| 1N4757A | 48.45                      | 51   | 53.55 | 5                       | 95                         | 1500                             | 0.25          | 5                       | 38.8      | 90                                                          |
| 1N4758A | 53.2                       | 56   | 58.8  | 4.5                     | 110                        | 2000                             | 0.25          | 5                       | 42.6      | 80                                                          |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

## NOTES:

### 2. Zener Voltage ( $V_Z$ ).

The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature ( $T_L$ ) at  $30^\circ\text{C} \pm 1^\circ\text{C}$  and 3/8" lead length.

### 3. 2 Square wave Reverse Surge at 8.3 ms soak time.

# 1N4728A – 1N4758A

## TOP MARKING AND ORDERING INFORMATION

| Device       | Top Marking |        |        |        |        | Package                                 | Shipping <sup>†</sup> |
|--------------|-------------|--------|--------|--------|--------|-----------------------------------------|-----------------------|
|              | Line 1      | Line 2 | Line 3 | Line 4 | Line 5 |                                         |                       |
| 1N4728A      | LOGO        | 47     | 28     | A      | XY     | Axial Lead<br>(Pb – Free / Halide Free) | 3000 / Bulk Bag       |
| 1N4728A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4728ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4732A      |             |        | 32     |        |        |                                         | 3000 / Bulk Bag       |
| 1N4732A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4732ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4733A      |             |        | 33     |        |        |                                         | 3000 / Bulk Bag       |
| 1N4733A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4733A–T50R |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4733ATR    |             |        | 34     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4734A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4734A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4734A–T50R |             |        | 35     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4734ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4735A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4735A–T50A |             |        | 36     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4735A–T50R |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4735ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4736A      |             |        | 37     |        |        |                                         | 3000 / Bulk Bag       |
| 1N4736A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4736A–T50R |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4736ATR    |             |        | 38     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4737A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4737A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4737ATR    |             |        | 39     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4738A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4738A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4738A–T50R |             |        | 40     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4738ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4739A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4739A–T50A |             |        | 41     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4739ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4740A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4740A–T50A |             |        | 42     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4740ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4741A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4741A–T50A |             |        | 42     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4741ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4742A      |             |        |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4742A–T50A |             |        | 42     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4742ATR    |             |        |        |        |        |                                         | 3000 / Tape and Reel  |

# 1N4728A – 1N4758A

## TOP MARKING AND ORDERING INFORMATION (continued)

| Device       | Top Marking     |                 |        |        |        | Package                                 | Shipping <sup>†</sup> |
|--------------|-----------------|-----------------|--------|--------|--------|-----------------------------------------|-----------------------|
|              | Line 1          | Line 2          | Line 3 | Line 4 | Line 5 |                                         |                       |
| 1N4743A      | LOGO            | 47              | 43     | A      | XY     | Axial Lead<br>(Pb – Free / Halide Free) | 3000 / Bulk Bag       |
| 1N4743A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4743ATR    |                 |                 |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4744A      |                 |                 | 44     |        |        |                                         | 3000 / Bulk Bag       |
| 1N4744A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4744A–T50R |                 |                 |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4744ATR    |                 |                 | 45     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4745A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4745A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4745ATR    |                 |                 | 46     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4746A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4746A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4746ATR    |                 |                 | 47     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4747A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4747A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4747ATR    |                 |                 | 48     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4748A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4748A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4748ATR    |                 |                 | 49     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4749A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4749A–T50A |                 |                 |        |        |        |                                         | 3000 / Fan–Fold       |
| 1N4749A–T50R |                 |                 | 50     |        |        |                                         | 3000 / Tape and Reel  |
| 1N4749ATR    |                 |                 |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4750A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4750A–T50A |                 |                 | 51     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4750ATR    |                 |                 |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4751A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4751A–T50A |                 |                 | 52     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4751ATR    |                 |                 |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4752A      |                 |                 |        |        |        |                                         | 3000 / Bulk Bag       |
| 1N4752A–T50A |                 |                 | 53     |        |        |                                         | 3000 / Fan–Fold       |
| 1N4752ATR    |                 |                 |        |        |        |                                         | 3000 / Tape and Reel  |
| 1N4753A      | 3000 / Bulk Bag |                 |        |        |        |                                         |                       |
| 1N4753A–T50A | 54              | 3000 / Fan–Fold |        |        |        |                                         |                       |
| 1N4754A      |                 | 3000 / Bulk Bag |        |        |        |                                         |                       |
| 1N4754A–T50A |                 | 3000 / Fan–Fold |        |        |        |                                         |                       |
| 1N4755A      | 55              | 3000 / Bulk Bag |        |        |        |                                         |                       |
| 1N4755A–T50A |                 | 3000 / Fan–Fold |        |        |        |                                         |                       |
| 1N4756A      |                 | 3000 / Bulk Bag |        |        |        |                                         |                       |
| 1N4757A      | 56              | 3000 / Bulk Bag |        |        |        |                                         |                       |
|              | 57              | 3000 / Bulk Bag |        |        |        |                                         |                       |

## 1N4728A – 1N4758A

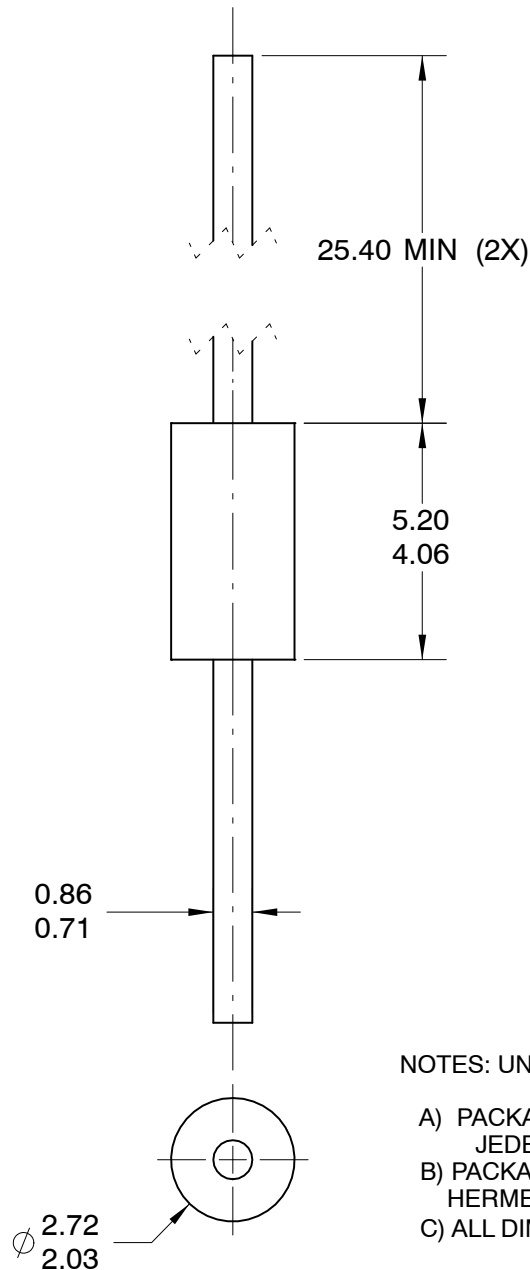
### TOP MARKING AND ORDERING INFORMATION (continued)

| Device       | Top Marking |        |        |        |        | Package                                 | Shipping <sup>†</sup> |
|--------------|-------------|--------|--------|--------|--------|-----------------------------------------|-----------------------|
|              | Line 1      | Line 2 | Line 3 | Line 4 | Line 5 |                                         |                       |
| 1N4758A      | LOGO        | 47     | 58     | A      | XY     | Axial Lead<br>(Pb – Free / Halide Free) | 3000 / Bulk Bag       |
| 1N4758A–T50A |             |        |        |        |        |                                         | 3000 / Fan–Fold       |

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

**AXIAL LEAD / DO-41**  
CASE 017AH  
ISSUE O

DATE 31 AUG 2016



NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-204 VARIATION AL.
- B) PACKAGE BODY CAN BE PLASTIC OR  
HERMETICALLY SEALED GLASS.
- C) ALL DIMENSIONS ARE IN MILLIMETERS.

|                         |                           |                                                                                                                                                                                     |
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