



Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4933

**1N4728A  
 THRU  
 1N4761A**

**Features**

- Hermetic Glass Package
- Silicon Planar Zener Diodes
- Lead Free Finish/Rohs Compliant (Note2) ("P" Suffix designates Compliant. See ordering information)
- Moisture Sensitivity: Level 1

**1.0 Watt  
 Zener Diode  
 3.3 to 75 Volts**

**Mechanical Data**

- Case: DO-41 Glass Package
- Marking : Cathode band and type number
- Weight: 0.309 grams (Approx.)

**Maximum Ratings**

- Operating Temperature: -65°C to +200°C
- Storage Temperature: -65°C to +200°C
- For capacitive load, derate current by 20%

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|                           |                   |         |                       |
|---------------------------|-------------------|---------|-----------------------|
| DC Power Dissipation      | P <sub>d</sub>    | 1.0W    | T <sub>A</sub> ≤ 50°C |
| Forward Voltage Drop      | V <sub>F</sub>    | 1.2V    |                       |
| Thermal Resistance        | R <sub>thJA</sub> | 100K/W  | Note 1                |
| Power Derating from 100°C | P <sub>tot</sub>  | 10mW/°C |                       |

**Note:** (1) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature.

(2). Lead in Glass Exemption Applied, see EU Directive Annex 7(C)-I.

DO-41G

| DIMENSIONS |        |       |       |       | NOTE     |
|------------|--------|-------|-------|-------|----------|
| DIM        | INCHES |       | MM    |       |          |
|            | MIN    | MAX   | MIN   | MAX   |          |
| A          | -----  | 0.177 | ----- | 4.50  |          |
| B          | -----  | 0.110 | ----- | 2.80  | Diameter |
| C          | 0.026  | 0.034 | 0.70  | 0.90  | Diameter |
| D          | 1.000  | ----- | 25.40 | ----- |          |

**Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted). Maximum  $V_F = 1.2\text{V}$  at  $I_F = 200\text{mA}$ 

| MCC<br>Part Number | Zener<br>Voltage | Test<br>Current | Maximum Dynamic Impedance |                   |          | Maximum Reverse<br>Leakage Current |       | Surge<br>Current | Maximum<br>Regulator<br>Current |
|--------------------|------------------|-----------------|---------------------------|-------------------|----------|------------------------------------|-------|------------------|---------------------------------|
|                    |                  |                 | $Z_{ZT} @ I_{ZT}$         | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R @ V_R$                        | $V_R$ |                  |                                 |
|                    | $V_Z @ I_{ZT}$   | $I_{ZT}$        | $Z_{ZT} @ I_{ZT}$         | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R @ V_R$                        | $V_R$ | $I_R$            | $I_{ZM}$                        |
|                    | Volts            | mA              | OHMS                      | OHMS              | mA       | $\mu\text{A}$                      | Volts | mA               | mA                              |
| 1N4728A            | 3.3              | 76              | 10                        | 400               | 1        | 100                                | 1     | 1380             | 276                             |
| 1N4729A            | 3.6              | 69              | 10                        | 400               | 1        | 100                                | 1     | 1260             | 252                             |
| 1N4730A            | 3.9              | 64              | 9                         | 400               | 1        | 50                                 | 1     | 1190             | 234                             |
| 1N4731A            | 4.3              | 58              | 9                         | 400               | 1        | 10                                 | 1     | 1070             | 217                             |
| 1N4732A            | 4.7              | 53              | 8                         | 500               | 1        | 10                                 | 1     | 970              | 193                             |
| 1N4733A            | 5.1              | 49              | 7                         | 550               | 1        | 10                                 | 1     | 890              | 178                             |
| 1N4734A            | 5.6              | 45              | 5                         | 600               | 1        | 10                                 | 2     | 810              | 162                             |
| 1N4735A            | 6.2              | 41              | 2                         | 700               | 1        | 10                                 | 3     | 730              | 146                             |
| 1N4736A            | 6.8              | 37              | 3.5                       | 700               | 1        | 10                                 | 4     | 660              | 133                             |
| 1N4737A            | 7.5              | 34              | 4                         | 700               | 0.5      | 10                                 | 5     | 605              | 121                             |
| 1N4738A            | 8.2              | 31              | 4.5                       | 700               | 0.5      | 10                                 | 6     | 550              | 110                             |
| 1N4739A            | 9.1              | 28              | 5                         | 700               | 0.5      | 10                                 | 7     | 500              | 100                             |
| 1N4740A            | 10               | 25              | 7                         | 700               | 0.25     | 10                                 | 7.6   | 454              | 91                              |
| 1N4741A            | 11               | 23              | 8                         | 700               | 0.25     | 5                                  | 8.4   | 414              | 83                              |
| 1N4742A            | 12               | 21              | 9                         | 700               | 0.25     | 5                                  | 9.1   | 380              | 76                              |
| 1N4743A            | 13               | 19              | 10                        | 700               | 0.25     | 5                                  | 9.9   | 344              | 69                              |
| 1N4744A            | 15               | 17              | 14                        | 700               | 0.25     | 5                                  | 11.4  | 304              | 61                              |
| 1N4745A            | 16               | 15.5            | 16                        | 700               | 0.25     | 5                                  | 12.2  | 285              | 57                              |
| 1N4746A            | 18               | 14              | 20                        | 750               | 0.25     | 5                                  | 13.7  | 250              | 50                              |
| 1N4747A            | 20               | 12.5            | 22                        | 750               | 0.25     | 5                                  | 15.2  | 225              | 45                              |
| 1N4748A            | 22               | 11.5            | 23                        | 750               | 0.25     | 5                                  | 16.7  | 205              | 41                              |
| 1N4749A            | 24               | 10.5            | 25                        | 750               | 0.25     | 5                                  | 18.2  | 190              | 38                              |
| 1N4750A            | 27               | 9.5             | 35                        | 750               | 0.25     | 5                                  | 20.6  | 170              | 34                              |
| 1N4751A            | 30               | 8.5             | 40                        | 1000              | 0.25     | 5                                  | 22.8  | 150              | 30                              |
| 1N4752A            | 33               | 7.5             | 45                        | 1000              | 0.25     | 5                                  | 25.1  | 135              | 27                              |
| 1N4753A            | 36               | 7               | 50                        | 1000              | 0.25     | 5                                  | 27.4  | 125              | 25                              |
| 1N4754A            | 39               | 6.5             | 60                        | 1000              | 0.25     | 5                                  | 29.7  | 115              | 23                              |
| 1N4755A            | 43               | 6               | 70                        | 1500              | 0.25     | 5                                  | 32.7  | 110              | 22                              |
| 1N4756A            | 47               | 5.5             | 80                        | 1500              | 0.25     | 5                                  | 35.8  | 95               | 19                              |
| 1N4757A            | 51               | 5               | 95                        | 1500              | 0.25     | 5                                  | 38.8  | 90               | 18                              |
| 1N4758A            | 56               | 4.5             | 110                       | 2000              | 0.25     | 5                                  | 42.6  | 80               | 16                              |
| 1N4759A            | 62               | 4               | 125                       | 2000              | 0.25     | 5                                  | 47.1  | 70               | 14                              |
| 1N4760A            | 68               | 3.7             | 150                       | 2000              | 0.25     | 5                                  | 51.7  | 65               | 13                              |
| 1N4761A            | 75               | 3.3             | 175                       | 2000              | 0.25     | 5                                  | 56    | 60               | 12                              |

- Note** 1: The JEDEC type number shown with an A suffix have a 5% tolerance on nominal zener voltage. C signifies 2%.
- 2: 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 DC 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 eliminate unstable units.
- 3: The reverse surge current is measured at  $25^\circ\text{C}$  ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on  $I_{ZT}$ .
- 4: Voltage measurements to be performed 90 seconds after application of DC current.
- 5: RoHs Compliant already and Pb-free sticker on reel, box & carton indicated RoHs compliant.

# 1N4728A thru 1N4761A



**Figure 1. Typical Thermal Resistance versus Lead Length**



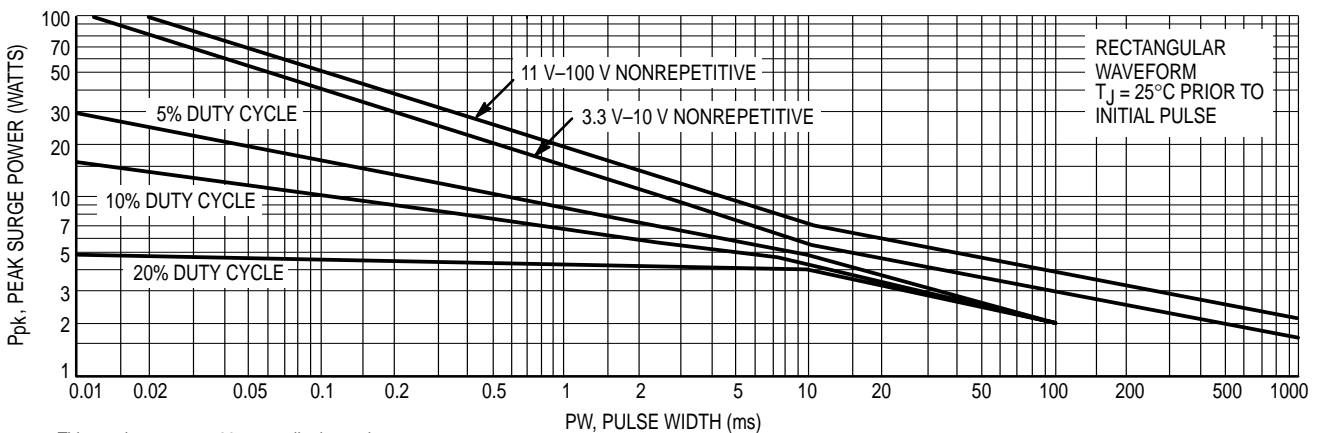
**Figure 2. Effect of Zener Current**



**Figure 3. Effect of Zener Current on Zener Impedance**



**Figure 4. Effect of Zener Voltage on Zener Impedance**



This graph represents 90 percentile data points.  
For worst case design characteristics, multiply surge power by 2/3.

**Figure 5. Maximum Surge Power**



Micro Commercial Components

### Ordering Information :

| Device         | Packing                        |
|----------------|--------------------------------|
| Part Number-TP | Tape&Reel: 5Kpcs/Reel          |
| Part Number-AP | Ammo Packing: 2.5Kpcs/Ammo Box |
| Part Number-BP | Bulk: 50Kpcs/Carton            |

**\*\*\*IMPORTANT NOTICE\*\*\***

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

**\*\*\*LIFE SUPPORT\*\*\***

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.