



Micro Commercial Components



Micro Commercial Components  
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# SMAJ4728A THRU SMAJ4764A

## Features

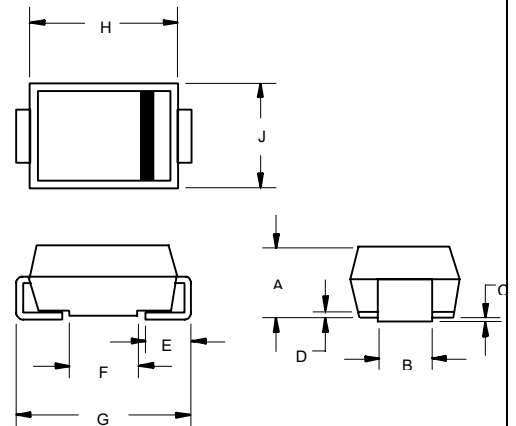
- Halogen free available upon request by adding suffix "-HF"
- Low Zener Impedance
- Low Regulation Factor
- $V_Z$  – tolerance:  $\pm 5\%$
- For Surface Mount Applications
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

### Maximum Ratings@25°C Unless Otherwise Specified

| Parameters                     | Test Conditions                        | Symbol          | Value     | Unit             |
|--------------------------------|--|-----------------|-----------|------------------|
| Power Dissipation              | $T_{amb} \leq 50^\circ\text{C}$        | $P_d$           | 1         | W                |
| Z-Current                      |  | $I_z$           | $P_d/V_z$ | mA               |
| Operating Junction Temperature |  | $T_j$           | -65~+150  | $^\circ\text{C}$ |
| Storage Temperature            |  | $T_{stg}$       | -65~+150  | $^\circ\text{C}$ |
| Thermal Resistance             | FR-4 Board, MCC's Suggested Solder Pad | $R_{\theta ja}$ | 100       | K/W              |
|                                |  | $R_{\theta jL}$ | 75        |                  |
| Max. Forward Voltage Drop      | $I_F = 100\text{mA}$                   | $V_f$           | 1.2       | V                |

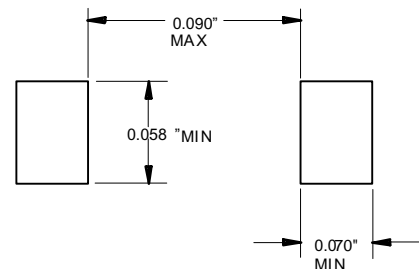
## 1 Watt Zener Diode 3.3 to 100 Volts

### DO-214AC (SMA)(LEAD FRAME)



| DIM | DIMENSIONS |      |      |      | NOTE |
|-----|------------|------|------|------|------|
|     | INCHES     |      | MM   |      |      |
| A   | .079       | .096 | 2.00 | 2.44 |      |
| B   | .050       | .064 | 1.27 | 1.63 |      |
| C   | .002       | .008 | .05  | .20  |      |
| D   | ---        | .02  | ---  | .51  |      |
| E   | .030       | .060 | .76  | 1.52 |      |
| F   | .065       | .091 | 1.65 | 2.32 |      |
| G   | .189       | .220 | 4.80 | 5.59 |      |
| H   | .157       | .181 | 4.00 | 4.60 |      |
| J   | .090       | .115 | 2.25 | 2.92 |      |

#### SUGGESTED SOLDER PAD LAYOUT



Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

**ELECTRICAL CHARACTERISTICS @25°C**

| MCC<br>PART<br>NUMBER | ZENER<br>VOLTAGE<br>$V_z$ | TEST<br>CURRENT<br>$I_{zT}$ | MAXIMUM<br>DYNAMIC<br>IMPEDANCE<br>$Z_{zT} @ I_{zT}$ | MAXIMUM<br>REVERSE<br>CURRENT<br>$I_R$ | REVERSE<br>VOLTAGE<br>$V_R$ | KNEE<br>IMPEDANCE<br>$Z_{zk}$ | KNEE<br>CURRENT<br>$I_{zk}$ | DEVICE<br>MARKING |
|-----------------------|---------------------------|-----------------------------|--|--|-----------------------------|-------------------------------|-----------------------------|-------------------|
|                       | VOLTS                     | mA                          | OHMS   | $\mu$ A                                | VOLTS                       | OHMS                          | mA                          |                   |
| SMAJ4728A             | 3.3                       | 76                          | 10   | 100                                    | 1                           | 400                           | 1                           | 728A              |
| SMAJ4729A             | 3.6                       | 69                          | 10   | 100                                    | 1                           | 400                           | 1                           | 729A              |
| SMAJ4730A             | 3.9                       | 64                          | 9  | 50                                     | 1                           | 400                           | 1                           | 730A              |
| SMAJ4731A             | 4.3                       | 58                          | 9  | 10                                     | 1                           | 400                           | 1                           | 731A              |
| SMAJ4732A             | 4.7                       | 53                          | 8  | 10                                     | 1                           | 500                           | 1                           | 732A              |
| SMAJ4733A             | 5.1                       | 49                          | 7  | 10                                     | 1                           | 550                           | 1                           | 733A              |
| SMAJ4734A             | 5.6                       | 45                          | 5  | 10                                     | 2                           | 600                           | 1                           | 734A              |
| SMAJ4735A             | 6.2                       | 41                          | 2  | 10                                     | 3                           | 700                           | 1                           | 735A              |
| SMAJ4736A             | 6.8                       | 37                          | 3.5  | 10                                     | 4                           | 700                           | 1                           | 736A              |
| SMAJ4737A             | 7.5                       | 34                          | 4  | 10                                     | 5                           | 700                           | 0.5                         | 737A              |
| SMAJ4738A             | 8.2                       | 31                          | 4.5  | 10                                     | 6                           | 700                           | 0.5                         | 738A              |
| SMAJ4739A             | 9.1                       | 28                          | 5  | 10                                     | 7                           | 700                           | 0.5                         | 739A              |
| SMAJ4740A             | 10                        | 25                          | 7  | 10                                     | 7.6                         | 700                           | 0.25                        | 740A              |
| SMAJ4741A             | 11                        | 23                          | 8  | 5                                      | 8.4                         | 700                           | 0.25                        | 741A              |
| SMAJ4742A             | 12                        | 21                          | 9  | 5                                      | 9.1                         | 700                           | 0.25                        | 742A              |
| SMAJ4743A             | 13                        | 19                          | 10   | 5                                      | 9.9                         | 700                           | 0.25                        | 743A              |
| SMAJ4744A             | 15                        | 17                          | 14   | 5                                      | 11.4                        | 700                           | 0.25                        | 744A              |
| SMAJ4745A             | 16                        | 15.5                        | 16   | 5                                      | 12.2                        | 700                           | 0.25                        | 745A              |
| SMAJ4746A             | 18                        | 14                          | 20   | 5                                      | 13.7                        | 750                           | 0.25                        | 746A              |
| SMAJ4747A             | 20                        | 12.5                        | 22   | 5                                      | 15.2                        | 750                           | 0.25                        | 747A              |
| SMAJ4748A             | 22                        | 11.5                        | 23   | 5                                      | 16.7                        | 750                           | 0.25                        | 748A              |
| SMAJ4749A             | 24                        | 10.5                        | 25   | 5                                      | 18.2                        | 750                           | 0.25                        | 749A              |
| SMAJ4750A             | 27                        | 9.5                         | 35   | 5                                      | 20.6                        | 750                           | 0.25                        | 750A              |
| SMAJ4751A             | 30                        | 8.5                         | 40   | 5                                      | 22.8                        | 1000                          | 0.25                        | 751A              |
| SMAJ4752A             | 33                        | 7.5                         | 45   | 5                                      | 25.1                        | 1000                          | 0.25                        | 752A              |
| SMAJ4753A             | 36                        | 7                           | 50   | 5                                      | 27.4                        | 1000                          | 0.25                        | 753A              |
| SMAJ4754A             | 39                        | 6.5                         | 60   | 5                                      | 29.7                        | 1000                          | 0.25                        | 754A              |
| SMAJ4755A             | 43                        | 6                           | 70   | 5                                      | 32.7                        | 1500                          | 0.25                        | 755A              |
| SMAJ4756A             | 47                        | 5.5                         | 80   | 5                                      | 35.8                        | 1500                          | 0.25                        | 756A              |
| SMAJ4757A             | 51                        | 5                           | 95   | 5                                      | 38.8                        | 1500                          | 0.25                        | 757A              |
| SMAJ4758A             | 56                        | 4.5                         | 110  | 5                                      | 42.6                        | 2000                          | 0.25                        | 758A              |
| SMAJ4759A             | 62                        | 4                           | 125  | 5                                      | 47.1                        | 2000                          | 0.25                        | 759A              |
| SMAJ4760A             | 68                        | 3.7                         | 150  | 5                                      | 51.7                        | 2000                          | 0.25                        | 760A              |
| SMAJ4761A             | 75                        | 3.3                         | 175  | 5                                      | 56                          | 2000                          | 0.25                        | 761A              |
| SMAJ4762A             | 82                        | 3                           | 200  | 5                                      | 62.2                        | 3000                          | 0.25                        | 762A              |
| SMAJ4763A             | 91                        | 2.8                         | 250  | 5                                      | 69.2                        | 3000                          | 0.25                        | 763A              |
| SMAJ4764A             | 100                       | 2.5                         | 350  | 5                                      | 76                          | 3000                          | 0.25                        | 764A              |

**Characteristics** ( $T_j=25^\circ\text{C}$  unless otherwise specified)

| Symbol   | Parameter                          |
|----------|------------------------------------|
| $V_Z$    | Reverse zener voltage @ $I_{ZT}$   |
| $I_{ZT}$ | Reverse current                    |
| $Z_{ZT}$ | Maximum zener impedance @ $I_{ZT}$ |
| $I_{ZK}$ | Reverse current                    |
| $Z_{ZK}$ | Maximum zener impedance @ $I_{ZK}$ |
| $I_R$    | Reverse leakage current @ $V_R$    |
| $V_R$    | Breakdown voltage                  |
| $I_F$    | Forward current                    |
| $V_F$    | Forward voltage @ $I_F$            |

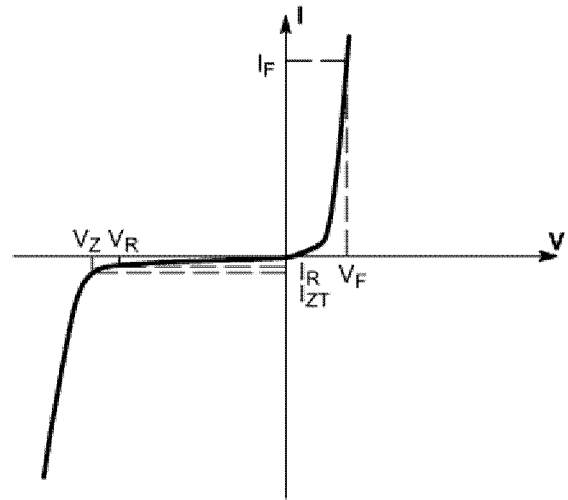


Figure 1. Zener voltage regulator

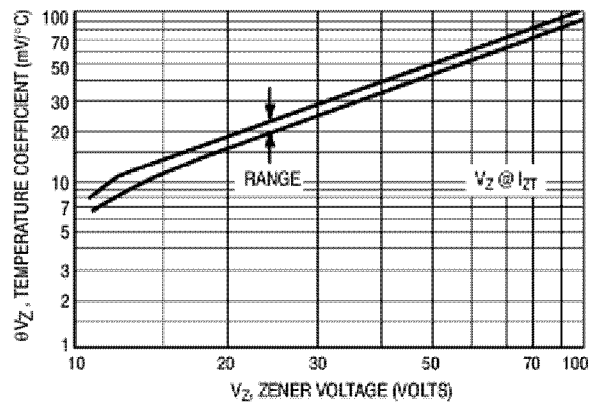
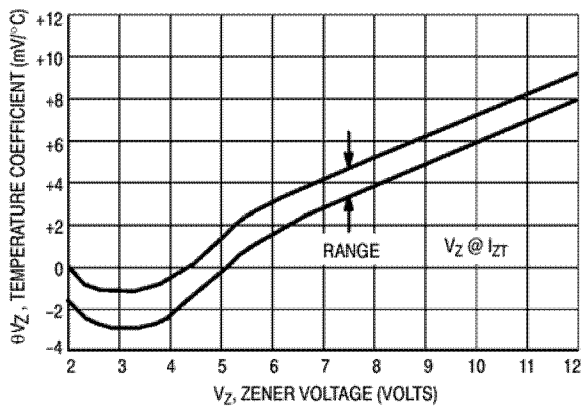


Figure 2. Temperature coefficients

( $-55^\circ\text{C}$  to  $+150^\circ\text{C}$  temperature range; 90% of the units are in the ranges indicated)

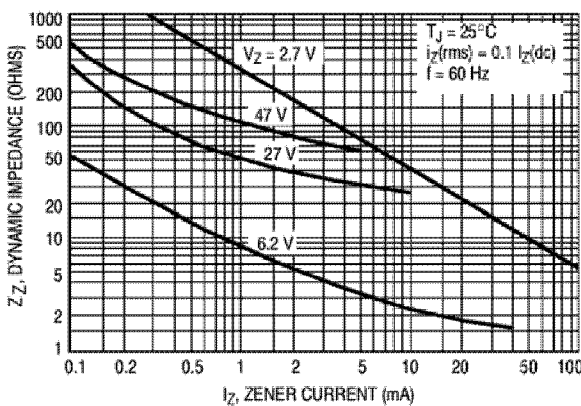


Figure 3. Effect of zener current on zener impedance

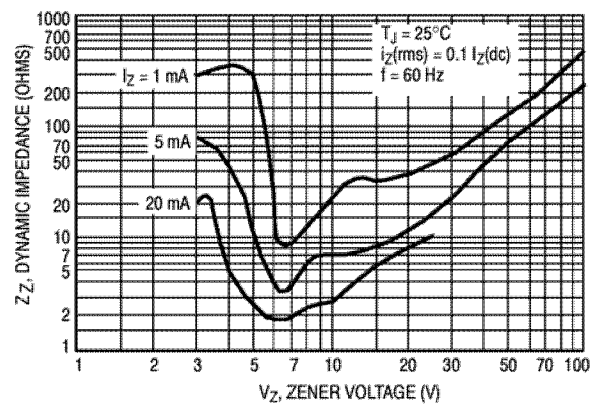


Figure 4. Effect of zener voltage on zener impedance



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### Ordering Information :

| Device         | Packing                 |
|----------------|-------------------------|
| Part Number-TP | Tape&Reel: 7.5Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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- Техническая поддержка проекта;
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#### Как с нами связаться

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