



Micro Commercial Components

Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

SMAJ4728A THRU SMAJ4761A

Features

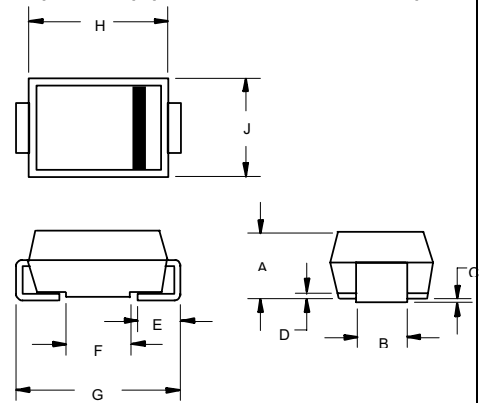
- Low Zener Impedance
- Low Regulation Factor
- V_z – tolerance: $\pm 5\%$
- For Surface Mount Applications
- Case Material : Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating1
- Lead Free Finish/Rohs Compliant (Note 1) ("P" Suffix designates Compliant. See ordering information)

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

Maximum Ratings@25°C Unless Otherwise Specified

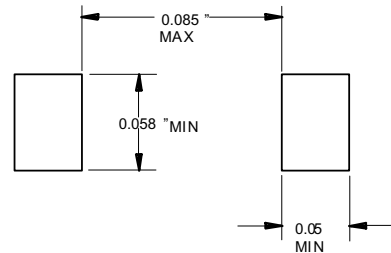
| Parameters | Test Conditions | Symbol | Value | Unit |
|--|---------------------------|-----------------|-----------|------------|
| Power Dissipation | $T_{amb} \leq 50^\circ C$ | P_d | 1 | W |
| Z-Current | | I_z | P_d/V_z | mA |
| Operating Junction Temperature | | T_j | -65~+200 | $^\circ C$ |
| Storage Temperature | | T_{stg} | -65~+175 | $^\circ C$ |
| Thermal Resistance Junction to Ambient | | $R_{\theta ja}$ | 100 | K/W |
| Max. Forward Voltage Drop | $I_F=100mA$ | V_f | 1.2 | V |

DO-214AC (SMA)(LEAD FRAME)



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| 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 PART NUMBER | ZENER VOLTAGE $V_Z(1)$ VOLTS | TEST CURRENT I_{ZT} mA | MAXIMUM DYNAMIC IMPEDANCE $Z_{ZT} @ I_{ZT}$ OHMS | MAXIMUM REVERSE CURRENT $I_R @ V_R$ μA | TEST VOLTAGE V_R VOLTS | MAXIMUM KNEE IMPEDANCE $Z_{ZK} @ I_{ZK}$ OHMS | TEST CURRENT I_{ZK} mA | DEVICE MARKING |
|-----------------|---------------------------------|-----------------------------|---|--|-----------------------------|--|-----------------------------|----------------|
| SMAJ4728A | 3.3 | 76 | 10 | 100 | 1 | 400 | 1.0 | 728A |
| SMAJ4729A | 3.6 | 69 | 10 | 100 | 1 | 400 | 1.0 | 729A |
| SMAJ4730A | 3.9 | 64 | 9 | 50 | 1 | 400 | 1.0 | 730A |
| SMAJ4731A | 4.3 | 58 | 9 | 10 | 1 | 400 | 1.0 | 731A |
| SMAJ4732A | 4.7 | 53 | 8 | 10 | 1 | 500 | 1.0 | 732A |
| SMAJ4733A | 5.1 | 49 | 7 | 10 | 1 | 550 | 1.0 | 733A |
| SMAJ4734A | 5.6 | 45 | 5 | 10 | 2 | 600 | 1.0 | 734A |
| SMAJ4735A | 6.2 | 41 | 2 | 10 | 3 | 700 | 1.0 | 735A |
| SMAJ4736A | 6.8 | 37 | 3.5 | 10 | 4 | 700 | 1.0 | 736A |
| SMAJ4737A | 7.5 | 34 | 4.0 | 10 | 5 | 700 | 0.5 | 737A |
| SMAJ4738A | 8.2 | 31 | 4.5 | 10 | 6 | 700 | 0.5 | 738A |
| SMAJ4739A | 9.1 | 28 | 5.0 | 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 | 7.0 | 50 | 5 | 27.4 | 1000 | 0.25 | 753A |
| SMAJ4754A | 39 | 6.5 | 60 | 5 | 29.7 | 1000 | 0.25 | 754A |
| SMAJ4755A | 43 | 6.0 | 70 | 5 | 32.7 | 1500 | 0.25 | 755A |
| SMAJ4756A | 47 | 5.5 | 80 | 5 | 35.8 | 1500 | 0.25 | 756A |
| SMAJ4757A | 51 | 5.0 | 95 | 5 | 38.8 | 1500 | 0.25 | 757A |
| SMAJ4758A | 56 | 4.5 | 110 | 5 | 42.6 | 2000 | 0.25 | 758A |
| SMAJ4759A | 62 | 4.0 | 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 | 56.0 | 2000 | 0.25 | 761A |

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature(T_L) at 30°C, 9.5mm(3/8") from the diode body.

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 |

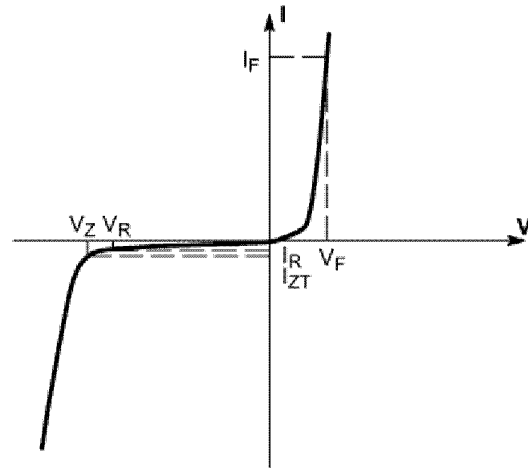


Figure 1. Zener voltage regulator

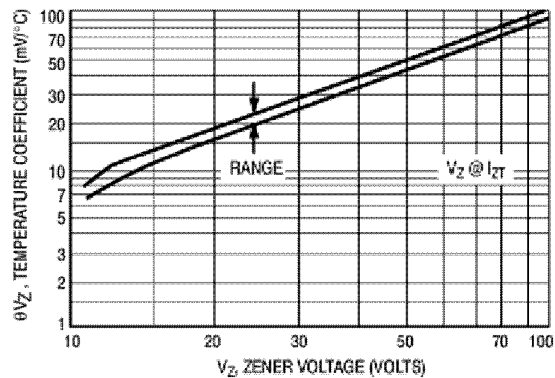
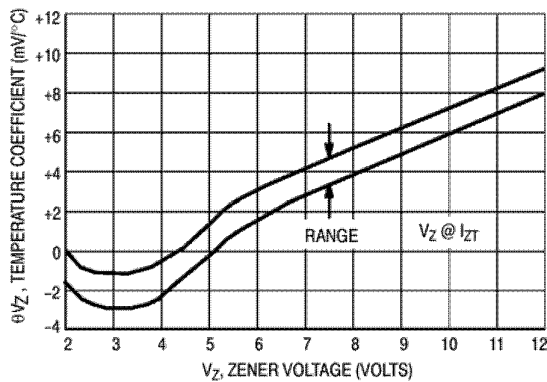


Figure 2. Temperature coefficients

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

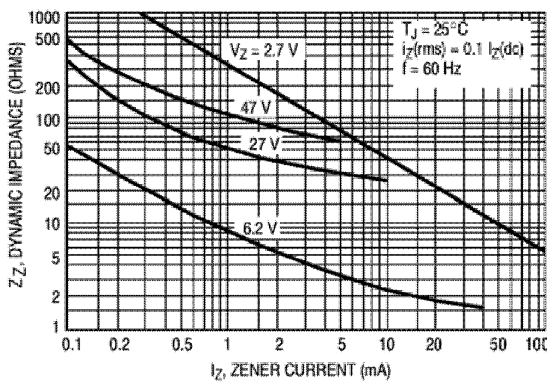


Figure 3. Effect of zener current on zener impedance

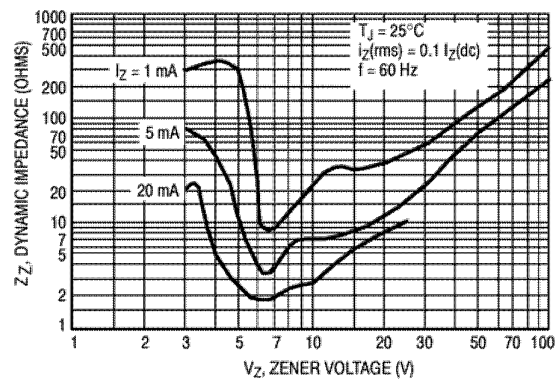


Figure 4. Effect of zener voltage on zener impedance



Micro Commercial Components

Ordering Information

| | |
|----------------------------|-----------------------------------|
| Device (Part Number)-TP | Packing Tape&Reel;7.5Kpcs/Reel |
|----------------------------|-----------------------------------|

*****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.

*****APPLICATIONS DISCLAIMER*****

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.

www.mccsemi.com