



Micro Commercial Components



Micro Commercial Components
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SMAJ4733A THRU SMAJ4764A

Features

- Halogen free available upon request by adding suffix "-HF"
- Low Zener Impedance
- Low Regulation Factor
- VZ – 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)

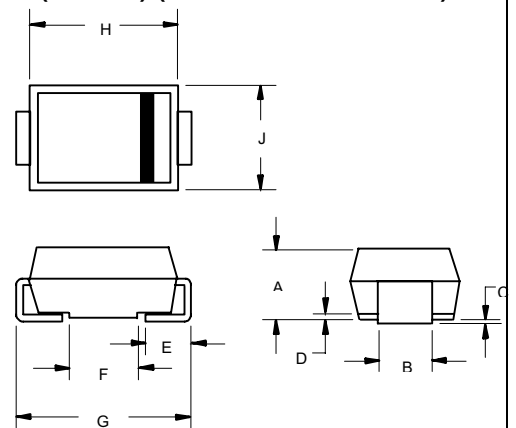
Maximum Ratings@25°C Unless Otherwise Specified

| 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 | Note:2 | $R_{\theta ja}$ | 100 | K/W |
| | | $R_{\theta jL}$ | 75 | |
| Max. Forward Voltage Drop | $I_F=100\text{mA}$ | V_f | 1.2 | V |

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a
 2. FR-4 Board, MCC's Suggested Solder Pad.

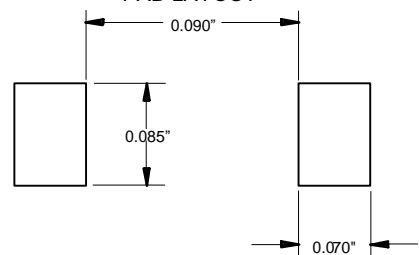
1 Watt Zener Diode 5.1 to 100 Volts

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



ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | ZENER VOLTAGE V_z | TEST CURRENT I_{zT} | MAXIMUM DYNAMIC IMPEDANCE $Z_{zT} @ I_{zT}$ | MAXIMUM REVERSE CURRENT I_R | REVERSE VOLTAGE V_R | KNEE IMPEDANCE Z_{zk} | KNEE CURRENT I_{zk} | DEVICE MARKING |
|-----------------|------------------------|--------------------------|--|----------------------------------|--------------------------|----------------------------|--------------------------|----------------|
| | VOLTS | mA | OHMS | μ A | VOLTS | OHMS | mA | |
| 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 |

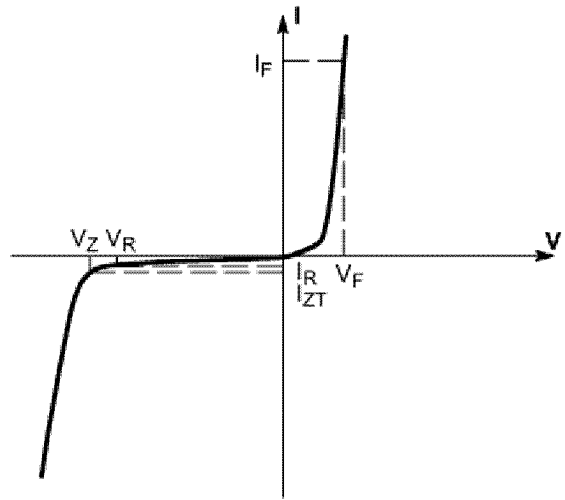


Figure 1. Zener voltage regulator

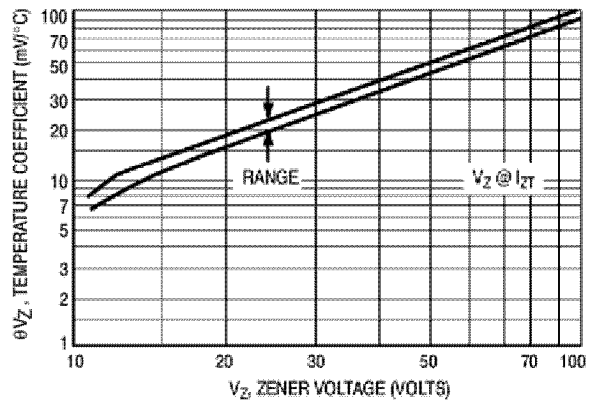
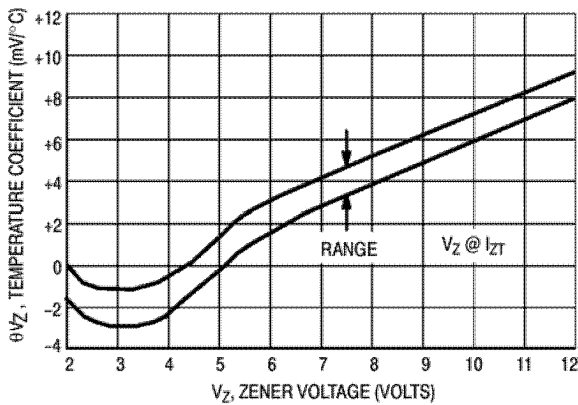


Figure 2. Temperature coefficients

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

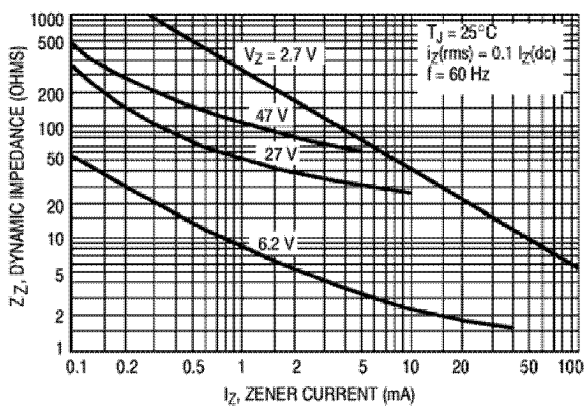


Figure 3. Effect of zener current on zener impedance

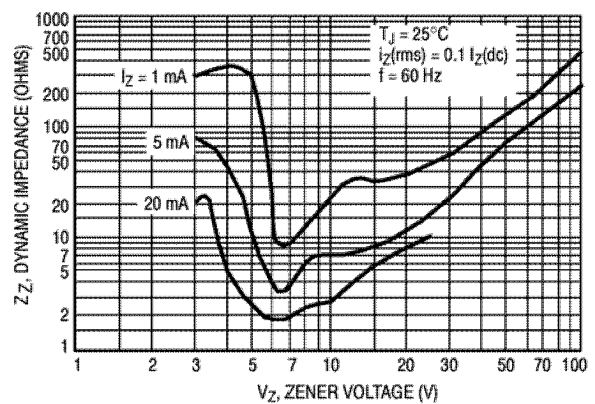


Figure 4. Effect of zener voltage on zener impedance

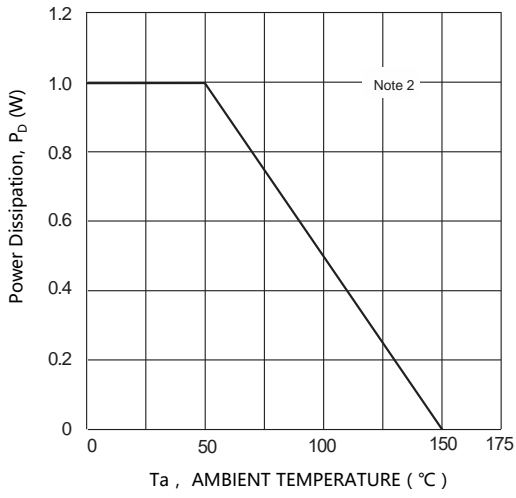


Fig. 5 STEADY STATE POWER DERATING



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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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