

**SMAJ4728A
 THRU
 SMAJ4764A**

**SILICON
 2 WATT
 ZENER DIODES**

Features

- For surface mount applications (flat handling surface for accurate placement)
- 3.3 thru 100 Volt Voltage Range
- High Surge Current Rating
- Higher Voltages Available
- Electrically Equivalent to JEDEC Registered 1N4728A thru 1N4764A
- Available on Tape and Reel.

Mechanical Data

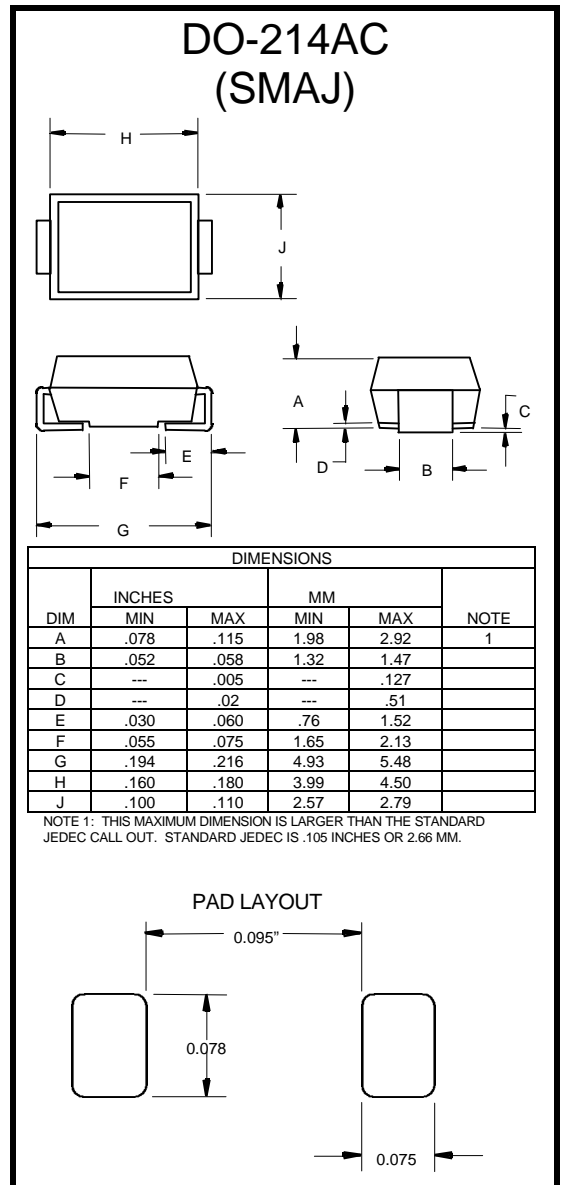
- Package similar to JEDEC DO-214AC (see dimension 'A' note)
- Terminals solderable per MIL-STD-750, Method 2026
- Polarity is indicated by cathode band.
- Maximum temperature for soldering: 260°C for 10 seconds.
- For surface mount applications with flame retardent epoxy meeting UL94V-0

Maximum Ratings @ 25°C Unless Otherwise Specified

| | | | |
|------------------------------------|-----------------|-----------------|-------------|
| Maximum Forward Voltage | V_F | 1.2V | (Note: 1) |
| Peak Surge Current | I_s | See Table 1 | |
| Steady State Power Dissipation | $P_{(AV)}$ | 2.0W | (Note: 2,3) |
| Operating And Storage Temperatures | T_J, T_{STG} | -55°C to +150°C | |
| Thermal Resistance | $R_{\theta JL}$ | 25°C/W | |

NOTES:

1. Forward Current @ 200mA.
2. Mounted on 4.0mm² copper pads to each terminal.
3. Lead temperature at 100°C or less. Derate linearly above 100°C to zero power at 150°C.



SMAJ4728A thru SMAJ4764A

Electrical Characteristics @ 25°C Unless Otherwise Specified

| PART NUMBER | ZENER VOLTAGE (V _Z) (NOTE 4) | TEST CURRENT (I _{ZT}) | MAXIMUM DYNAMIC IMPEDANCE (Z _{DT} @ I _{ZT}) (NOTE 2) | MAXIMUM REVERSE CURRENT (I _R @ V _R) | TEST VOLTAGE (V _R) | MAXIMUM REGULATOR CURRENT (I _{ZM}) T _L = 100 °C | MAXIMUM KNEE IMPEDANCE (Z _{ZK} @ I _{ZK}) (NOTE 2) | TEST CURRENT (I _{ZK}) | MAXIMUM (SURGE) CURRENT (I _S) (NOTE 3) |
|-------------|---|---------------------------------|--|--|--------------------------------|---|---|---------------------------------|---|
| | VOLTS | mA | OHMS | µA | VOLTS | MA | OHMS | mA | mA |
| SMAJ4728A | 3.3 | 76 | 10 | 100 | 1 | 552 | 400 | 1.0 | 1380 |
| SMAJ4729A | 3.6 | 69 | 10 | 100 | 1 | 504 | 400 | 1.0 | 1260 |
| SMAJ4730A | 3.9 | 64 | 9 | 50 | 1 | 468 | 400 | 1.0 | 1190 |
| SMAJ4731A | 4.3 | 58 | 9 | 10 | 1 | 434 | 400 | 1.0 | 1070 |
| SMAJ4732A | 4.7 | 53 | 8 | 10 | 1 | 386 | 500 | 1.0 | 970 |
| SMAJ4733A | 5.1 | 49 | 7 | 10 | 1 | 356 | 550 | 1.0 | 890 |
| SMAJ4734A | 5.6 | 45 | 5 | 10 | 2 | 324 | 600 | 1.0 | 810 |
| SMAJ4735A | 6.2 | 41 | 2 | 10 | 3 | 292 | 700 | 1.0 | 730 |
| SMAJ4736A | 6.8 | 37 | 3.5 | 10 | 4 | 266 | 700 | 1.0 | 660 |
| SMAJ4737A | 7.5 | 34 | 4.0 | 10 | 5 | 242 | 700 | 0.5 | 605 |
| SMAJ4738A | 8.2 | 31 | 4.5 | 10 | 6 | 220 | 700 | 0.5 | 550 |
| SMAJ4739A | 9.1 | 28 | 5.0 | 10 | 7 | 200 | 700 | 0.5 | 500 |
| SMAJ4740A | 10 | 25 | 7 | 10 | 7.6 | 182 | 700 | 0.25 | 454 |
| SMAJ4741A | 11 | 23 | 8 | 5 | 8.4 | 166 | 700 | 0.25 | 414 |
| SMAJ4742A | 12 | 21 | 9 | 5 | 9.1 | 152 | 700 | 0.25 | 380 |
| SMAJ4743A | 13 | 19 | 10 | 5 | 9.9 | 138 | 700 | 0.25 | 344 |
| SMAJ4744A | 15 | 17 | 14 | 5 | 11.4 | 132 | 700 | 0.25 | 304 |
| SMAJ4745A | 16 | 15.5 | 16 | 5 | 12.2 | 114 | 700 | 0.25 | 285 |
| SMAJ4746A | 18 | 14 | 20 | 5 | 13.7 | 100 | 750 | 0.25 | 250 |
| SMAJ4747A | 20 | 12.5 | 22 | 5 | 15.2 | 90 | 750 | 0.25 | 225 |
| SMAJ4748A | 22 | 11.5 | 23 | 5 | 16.7 | 82 | 720 | 0.25 | 205 |
| SMAJ4749A | 24 | 10.5 | 25 | 5 | 18.2 | 76 | 750 | 0.25 | 190 |
| SMAJ4750A | 27 | 9.5 | 35 | 5 | 20.6 | 68 | 750 | 0.25 | 170 |
| SMAJ4751A | 30 | 8.5 | 40 | 5 | 22.8 | 60 | 1000 | 0.25 | 150 |
| SMAJ4752A | 33 | 7.5 | 45 | 5 | 25.1 | 54 | 1000 | 0.25 | 135 |
| SMAJ4753A | 36 | 7.0 | 50 | 5 | 27.4 | 50 | 1000 | 0.25 | 125 |
| SMAJ4754A | 39 | 6.5 | 60 | 5 | 29.7 | 46 | 1000 | 0.25 | 115 |
| SMAJ4755A | 43 | 6.0 | 70 | 5 | 32.7 | 44 | 1500 | 0.25 | 110 |
| SMAJ4756A | 47 | 5.5 | 80 | 5 | 35.8 | 38 | 1500 | 0.25 | 95 |
| SMAJ4757A | 51 | 5.0 | 95 | 5 | 38.8 | 36 | 1500 | 0.25 | 90 |
| SMAJ4758A | 56 | 4.5 | 110 | 5 | 42.6 | 32 | 2000 | 0.25 | 80 |
| SMAJ4759A | 62 | 4.0 | 125 | 5 | 47.1 | 28 | 2000 | 0.25 | 70 |
| SMAJ4760A | 68 | 3.7 | 150 | 5 | 51.7 | 26 | 2000 | 0.25 | 65 |
| SMAJ4761A | 75 | 3.3 | 175 | 5 | 56.0 | 24 | 2000 | 0.25 | 60 |
| SMAJ4762A | 82 | 3.0 | 200 | 5 | 62.2 | 22 | 3000 | 0.25 | 55 |
| SMAJ4763A | 91 | 2.8 | 250 | 5 | 69.2 | 20 | 3000 | 0.25 | 50 |
| SMAJ4764A | 100 | 2.5 | 350 | 5 | 76.0 | 18 | 3000 | 0.25 | 45 |

- NOTE:**
- The type numbers shown have a 5% tolerance on nominal zener voltage. No suffix signifies a 10% tolerance, C signifies 2%, and D signifies 1% tolerance.
 - 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}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and eliminate unstable units.
 - The reverse surge current is measured at 25 °C ambient using a square wave or equivalent sine wave pulse 1/120 second duration superimposed on I_{ZT}.
 - Voltage at thermal equilibrium or 90 seconds after application of dc current.