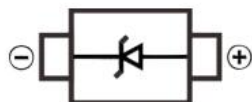


SMAF Surface Mounted Zener Diode 表面贴装稳压二极管

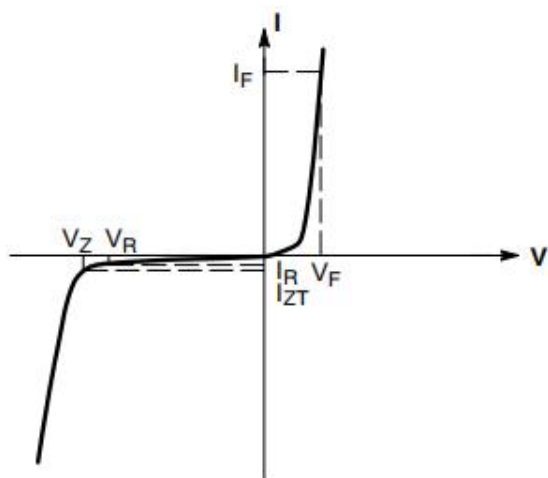
#### ■SMAF Internal Configuration 内部结构



#### ■Features 特点

| Characteristic 特性参数                      | Symbol 符号                     | Max 最大值                                                 | Unit 单位              |
|------------------------------------------|-------------------------------|---------------------------------------------------------|----------------------|
| Power dissipation 耗散功率                   | $P_D(T_A=25^{\circ}\text{C})$ | 500                                                     | mW                   |
| Power dissipation 耗散功率                   | $P_D(T_L=75^{\circ}\text{C})$ | 1000                                                    | mW                   |
| Forward Voltage 正向电压                     | $V_F(@ I_F=200\text{mA})$     | 1.2                                                     | V                    |
| Reverse Voltage 反向电压                     | $V_Z$                         | 3.3-330                                                 | V                    |
| Thermal Resistance J-L 结到管脚热阻            | $R_{\theta JL}$               | 50                                                      | $^{\circ}\text{C/W}$ |
| Thermal Resistance J-A 结到环境热阻            | $R_{\theta JA}$               | 250                                                     | $^{\circ}\text{C/W}$ |
| Junction and Storage Temperature 结温和储藏温度 | $T_J, T_{stg}$                | $150^{\circ}\text{C}, -65\text{to}+150^{\circ}\text{C}$ |                      |

| ELECTRICAL CHARACTERISTICS |                                     |
|----------------------------|-------------------------------------|
| SYMBOL                     | PARAMETER                           |
| $V_Z$                      | Reverse Zener voltage at $I_{ZT}$   |
| $I_{ZT}$                   | Reverse current                     |
| $Z_{ZT}$                   | Maximum Zener impedance at $I_{ZT}$ |
| $I_{ZK}$                   | Reverse current                     |
| $Z_{ZK}$                   | Maximum Zener impedance at $I_{ZK}$ |
| $I_R$                      | Reverse leakage current at $V_R$    |
| $V_R$                      | Reverse voltage                     |
| $I_F$                      | Forward current                     |
| $V_F$                      | Forward voltage at $I_F$            |
| $I_{ZM}$                   | Maximum DC Zener current            |



#### ■Electrical Characteristics 电特性

( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| Type Number | V <sub>Z</sub> (V)@I <sub>ZT</sub> |      |      | I <sub>ZT</sub> (mA) | Z <sub>ZT</sub> (Ω) @I <sub>ZT</sub> | I <sub>R</sub> (uA) @V <sub>R</sub> | V <sub>R</sub> (V) | I <sub>ZM</sub> (mA) | Marking |
|-------------|------------------------------------|------|------|----------------------|--------------------------------------|-------------------------------------|--------------------|----------------------|---------|
|             | Nom.                               | Min. | Max. |                      |                                      |                                     |                    |                      |         |
| 1SMAF4728A  | 3.3                                | 3.10 | 3.50 | 75                   | 10                                   | 100                                 | 1                  | 285                  | 728A    |
| 1SMAF4729A  | 3.6                                | 3.40 | 3.80 | 69                   | 10                                   | 100                                 | 1                  | 263                  | 729A    |
| 1SMAF4730A  | 3.9                                | 3.70 | 4.10 | 64                   | 9.0                                  | 50                                  | 1                  | 243                  | 730A    |
| 1SMAF4731A  | 4.3                                | 4.06 | 4.56 | 58                   | 9.0                                  | 25                                  | 1                  | 219                  | 731A    |
| 1SMAF4732A  | 4.7                                | 4.50 | 4.93 | 53                   | 8.0                                  | 10                                  | 1                  | 203                  | 732A    |
| 1SMAF4733A  | 5.1                                | 4.84 | 5.36 | 49                   | 7.0                                  | 10                                  | 1                  | 186                  | 733A    |
| 1SMAF4734A  | 5.6                                | 5.32 | 5.92 | 45                   | 5.0                                  | 10                                  | 2                  | 170                  | 734A    |
| 1SMAF4735A  | 6.2                                | 5.86 | 6.51 | 41                   | 2.0                                  | 10                                  | 3                  | 154                  | 735A    |
| 1SMAF4736A  | 6.8                                | 6.46 | 7.18 | 37                   | 3.5                                  | 10                                  | 4                  | 140                  | 736A    |
| 1SMAF4737A  | 7.5                                | 7.12 | 7.88 | 34                   | 4.0                                  | 10                                  | 5                  | 127                  | 737A    |
| 1SMAF4738A  | 8.2                                | 7.79 | 8.67 | 31                   | 4.5                                  | 10                                  | 6                  | 116                  | 738A    |
| 1SMAF4739A  | 9.1                                | 8.60 | 9.59 | 28                   | 5.0                                  | 10                                  | 7                  | 104                  | 739A    |
| 1SMAF4740A  | 10                                 | 9.50 | 10.5 | 25                   | 7.0                                  | 10                                  | 7                  | 95                   | 740A    |
| 1SMAF4741A  | 11                                 | 10.4 | 11.6 | 23                   | 8.0                                  | 5                                   | 8                  | 86                   | 741A    |
| 1SMAF4742A  | 12                                 | 11.4 | 12.6 | 21                   | 9.0                                  | 5                                   | 9                  | 79                   | 742A    |
| 1SMAF4743A  | 13                                 | 12.4 | 14.1 | 19                   | 10                                   | 5                                   | 10                 | 71                   | 743A    |
| 1SMAF4744A  | 15                                 | 13.8 | 15.8 | 17                   | 14                                   | 5                                   | 11                 | 63                   | 744A    |
| 1SMAF4745A  | 16                                 | 15.2 | 17.1 | 16                   | 16                                   | 5                                   | 12                 | 58                   | 745A    |
| 1SMAF4746A  | 18                                 | 16.8 | 19.2 | 14                   | 20                                   | 5                                   | 13                 | 52                   | 746A    |
| 1SMAF4747A  | 20                                 | 19.0 | 21.2 | 13                   | 22                                   | 5                                   | 15                 | 47                   | 747A    |
| 1SMAF4748A  | 22                                 | 20.8 | 23.3 | 12                   | 23                                   | 5                                   | 17                 | 43                   | 748A    |
| 1SMAF4749A  | 24                                 | 22.8 | 26.0 | 11                   | 25                                   | 5                                   | 18                 | 38                   | 749A    |
| 1SMAF4750A  | 27                                 | 25.3 | 28.9 | 9.5                  | 35                                   | 5                                   | 21                 | 35                   | 750A    |
| 1SMAF4751A  | 30                                 | 28.2 | 32.0 | 8.5                  | 40                                   | 5                                   | 23                 | 31                   | 751A    |
| 1SMAF4752A  | 33                                 | 31.3 | 34.9 | 7.5                  | 45                                   | 5                                   | 25                 | 28                   | 752A    |
| 1SMAF4753A  | 36                                 | 34.2 | 37.9 | 7.0                  | 50                                   | 5                                   | 27                 | 26                   | 753A    |
| 1SMAF4754A  | 39                                 | 37.2 | 41.5 | 6.5                  | 60                                   | 5                                   | 30                 | 24                   | 754A    |
| 1SMAF4755A  | 43                                 | 40.9 | 45.6 | 6.0                  | 70                                   | 1                                   | 32                 | 22                   | 755A    |
| 1SMAF4756A  | 47                                 | 44.9 | 49.8 | 5.5                  | 80                                   | 1                                   | 35                 | 20                   | 756A    |
| 1SMAF4757A  | 51                                 | 48.6 | 54.0 | 5.0                  | 95                                   | 1                                   | 38                 | 18                   | 757A    |
| 1SMAF4758A  | 56                                 | 53.6 | 58.8 | 4.5                  | 110                                  | 1                                   | 42                 | 17                   | 758A    |
| 1SMAF4759A  | 62                                 | 58.9 | 65.6 | 4.0                  | 125                                  | 1                                   | 47                 | 15                   | 759A    |
| 1SMAF4760A  | 68                                 | 64.6 | 71.7 | 3.7                  | 150                                  | 1                                   | 52                 | 14                   | 760A    |
| 1SMAF4761A  | 75                                 | 71.2 | 78.8 | 3.3                  | 175                                  | 1                                   | 56                 | 12                   | 761A    |
| 1SMAF4762A  | 82                                 | 77.9 | 87.0 | 3.0                  | 200                                  | 1                                   | 62                 | 11                   | 762A    |
| 1SMAF4763A  | 91                                 | 86.0 | 96.0 | 2.8                  | 250                                  | 1                                   | 69                 | 10                   | 763A    |
| 1SMAF4764A  | 100                                | 95.0 | 105  | 2.5                  | 350                                  | 1                                   | 76                 | 9.5                  | 764A    |
| 1SMAF4765A  | 110                                | 104  | 116  | 2.3                  | 450                                  | 1                                   | 84                 | 8.6                  | 765A    |
| 1SMAF4766A  | 120                                | 114  | 127  | 2.0                  | 550                                  | 1                                   | 91                 | 7.8                  | 766A    |
| 1SMAF4767A  | 135                                | 125  | 142  | 1.9                  | 700                                  | 1                                   | 100                | 7.0                  | 767A    |
| 1SMAF4768A  | 150                                | 140  | 157  | 1.7                  | 900                                  | 1                                   | 110                | 6.3                  | 768A    |
| 1SMAF4769A  | 165                                | 155  | 172  | 1.6                  | 1100                                 | 1                                   | 120                | 5.8                  | 769A    |
| 1SMAF4770A  | 180                                | 170  | 191  | 1.4                  | 1200                                 | 1                                   | 135                | 5.2                  | 770A    |
| 1SMAF4771A  | 200                                | 189  | 211  | 1.2                  | 1400                                 | 1                                   | 150                | 4.7                  | 771A    |
| 1SMAF4772A  | 220                                | 209  | 231  | 1.0                  | 1600                                 | 1                                   | 165                | 4.3                  | 772A    |
| 1SMAF4773A  | 240                                | 229  | 251  | 1.0                  | 1800                                 | 1                                   | 180                | 3.9                  | 773A    |
| 1SMAF4774A  | 260                                | 249  | 271  | 1.0                  | 2000                                 | 1                                   | 190                | 3.7                  | 774A    |
| 1SMAF4775A  | 280                                | 269  | 291  | 1.0                  | 2100                                 | 1                                   | 205                | 3.4                  | 775A    |
| 1SMAF4776A  | 300                                | 289  | 315  | 1.0                  | 2300                                 | 1                                   | 230                | 3.1                  | 776A    |
| 1SMAF4777A  | 330                                | 313  | 346  | 1.0                  | 2500                                 | 1                                   | 250                | 2.8                  | 777A    |

## ■ Typical Characteristic Curve 典型特性曲线

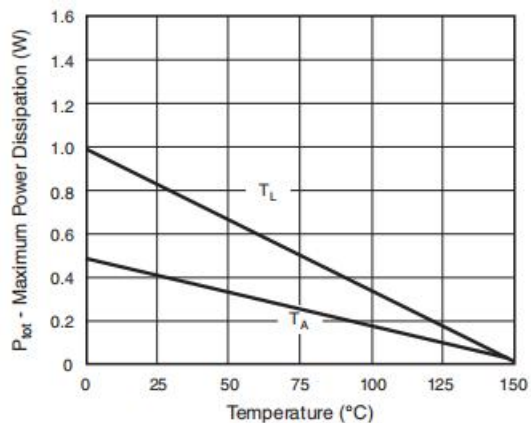


Figure 1: Power Derating Curve

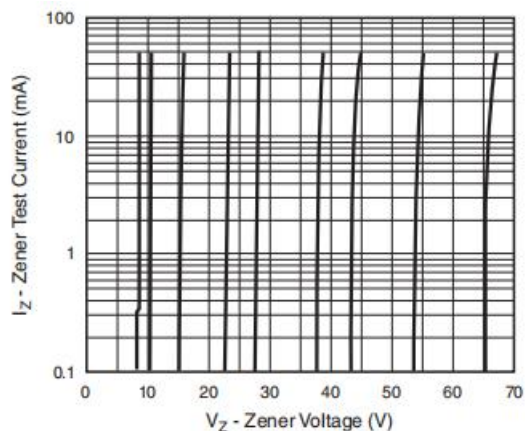


Figure 2: Zener Breakdown Characteristics

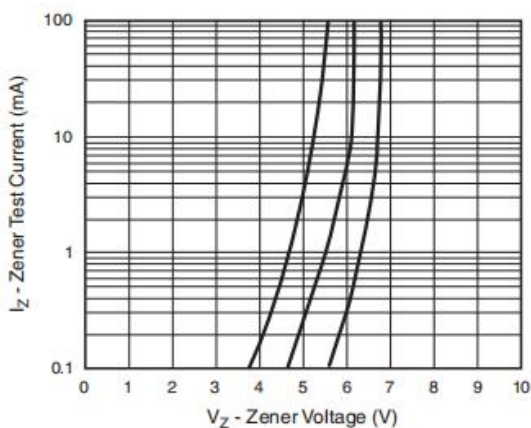


Figure 3: Zener Breakdown Characteristics

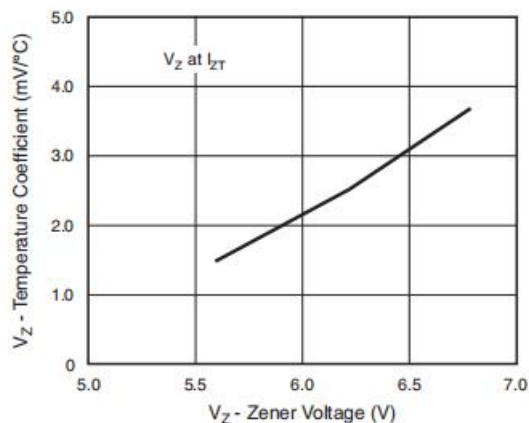


Figure 4: Temperature Coefficient

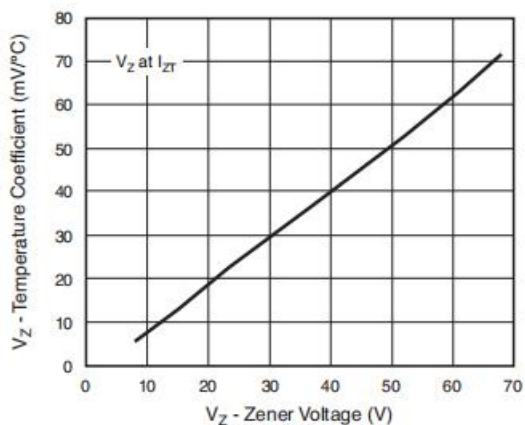


Figure 5: Temperature Coefficient

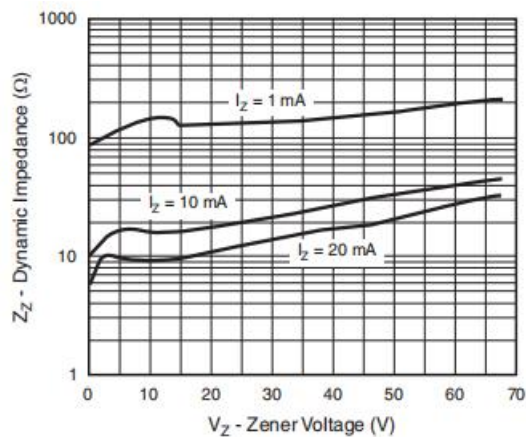
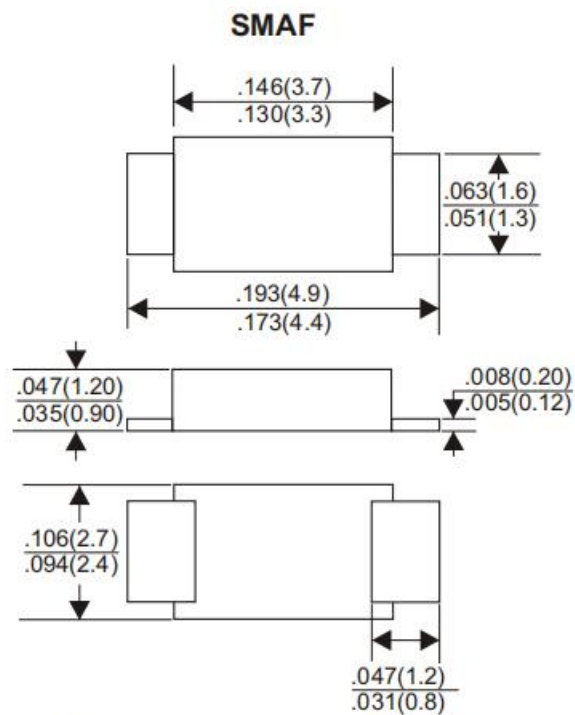


Figure 6: Zener Impedance

■Dimension 外形封装尺寸



Dimensions in inches and (millimeters)