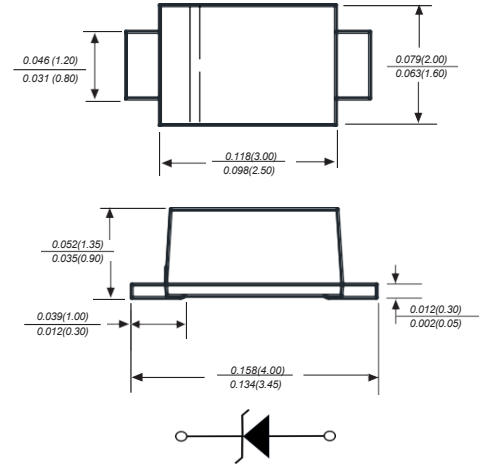


## SURFACE MOUNT ZENER DIODES

### Features

- ◆ Low profile package
- ◆ Ideal for automated placement
- ◆ Glass passivated chip junction
- ◆ Fast switching for high efficiency
- ◆ High forward surge capability
- ◆ Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### SOD-123FL



Dimensions in inches and (millimeters)

## Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Catalog Number                                               | SYMBOLS                           | VALUE        | UNITS |
|--------------------------------------------------------------|-----------------------------------|--------------|-------|
| DC power dissipation at TL = 75 °C                           | P <sub>D</sub>                    | 1.0          | W     |
| Maximum instantaneous forward voltage@ I <sub>F</sub> =200mA | V <sub>F</sub>                    | 1.2          | V     |
| Zener current                                                | I <sub>Z</sub>                    | PV /VZ       | mA    |
| Operating and Storage Temperature Range                      | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 | °C    |

## Ratings And Characteristic Curves

| Part Number | Device Marking Code | Nominal Zener voltage                                |                                                       |                                                      | Test current I <sub>ZT</sub> | Maximum dynamic impedance resistance |                                    |                 | Maximum reverse leakage current |                             | Maximum Surge Current I <sub>RM</sub> <sup>(2)</sup> | Maximum DC Zener Current I <sub>ZM</sub> |
|-------------|---------------------|------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------|------------------------------|--------------------------------------|------------------------------------|-----------------|---------------------------------|-----------------------------|------------------------------------------------------|------------------------------------------|
|             |                     | Min V <sub>Z</sub> <sup>(1)</sup> at I <sub>ZT</sub> | Typ. V <sub>Z</sub> <sup>(1)</sup> at I <sub>ZT</sub> | Max V <sub>Z</sub> <sup>(1)</sup> at I <sub>ZT</sub> |                              | Z <sub>ZT</sub> at I <sub>ZT</sub>   | Z <sub>ZK</sub> at I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>                  | Test voltage V <sub>R</sub> |                                                      |                                          |
|             |                     | V                                                    | V                                                     | V                                                    |                              | Ω                                    | Ω                                  | mA              | μA                              | V                           |                                                      |                                          |
| SMF4728A    | 28A                 | 3.14                                                 | 3.3                                                   | 3.47                                                 | 75                           | 10                                   | 400                                | 1               | 100                             | 1                           | 1370                                                 | 274                                      |
| SMF4729A    | 29A                 | 3.42                                                 | 3.6                                                   | 3.78                                                 | 69                           | 10                                   | 400                                | 1               | 100                             | 1                           | 1255                                                 | 251                                      |
| SMF4730A    | 30A                 | 3.71                                                 | 3.9                                                   | 4.1                                                  | 64                           | 9                                    | 400                                | 1               | 50                              | 1                           | 1160                                                 | 232                                      |
| SMF4731A    | 31A                 | 4.09                                                 | 4.3                                                   | 4.52                                                 | 58                           | 9                                    | 400                                | 1               | 25                              | 1                           | 1050                                                 | 210                                      |
| SMF4732A    | 32A                 | 4.47                                                 | 4.7                                                   | 4.94                                                 | 53                           | 8                                    | 500                                | 1               | 10                              | 1                           | 960                                                  | 192                                      |
| SMF4733A    | 33A                 | 4.85                                                 | 5.1                                                   | 5.36                                                 | 49                           | 7                                    | 550                                | 1               | 10                              | 1                           | 885                                                  | 177                                      |
| SMF4734A    | 34A                 | 5.32                                                 | 5.6                                                   | 5.88                                                 | 45                           | 5                                    | 600                                | 1               | 10                              | 2                           | 805                                                  | 161                                      |

| Part Number | Device Marking Code | Nominal Zener voltage       |                              |                             | Test current | Maximum dynamic impedance resistance |                      |          | Maximum reverse leakage current |                    | Maximum Surge Current | Maximum DC Zener Current |
|-------------|---------------------|-----------------------------|------------------------------|-----------------------------|--------------|--------------------------------------|----------------------|----------|---------------------------------|--------------------|-----------------------|--------------------------|
|             |                     | Min $V_Z^{(1)}$ at $I_{ZT}$ | Typ. $V_Z^{(1)}$ at $I_{ZT}$ | Max $V_Z^{(1)}$ at $I_{ZT}$ | $I_{ZT}$     | $Z_{ZT}$ at $I_{ZT}$                 | $Z_{ZK}$ at $I_{ZK}$ | $I_{ZK}$ | $I_R$                           | Test voltage $V_R$ | $I_{RM}^{(2)}$        | $I_{ZM}$                 |
|             |                     | V                           | V                            | V                           | mA           | $\Omega$                             | $\Omega$             | mA       | $\mu A$                         | V                  | mA                    | mA                       |
| SMF4735A    | 35A                 | 5.89                        | 6.2                          | 6.51                        | 41           | 2                                    | 700                  | 1        | 10                              | 3                  | 730                   | 146                      |
| SMF4736A    | 36A                 | 6.46                        | 6.8                          | 7.14                        | 37           | 3.5                                  | 700                  | 1        | 10                              | 4                  | 660                   | 133                      |
| SMF4737A    | 37A                 | 7.13                        | 7.5                          | 7.88                        | 34           | 4                                    | 700                  | 0.5      | 10                              | 5                  | 605                   | 121                      |
| SMF4738A    | 38A                 | 7.79                        | 8.2                          | 8.61                        | 31           | 4.5                                  | 700                  | 0.5      | 10                              | 6                  | 550                   | 110                      |
| SMF4739A    | 39A                 | 8.65                        | 9.1                          | 9.56                        | 28           | 5                                    | 700                  | 0.5      | 10                              | 7                  | 500                   | 100                      |
| SMF4740A    | 40A                 | 9.5                         | 10                           | 10.5                        | 25           | 7                                    | 700                  | 0.25     | 10                              | 7.6                | 454                   | 91                       |
| SMF4741A    | 41A                 | 10.45                       | 11                           | 11.55                       | 23           | 8                                    | 700                  | 0.25     | 5                               | 8.4                | 414                   | 83                       |
| SMF4742A    | 42A                 | 11.4                        | 12                           | 12.6                        | 21           | 9                                    | 700                  | 0.25     | 5                               | 9.1                | 380                   | 76                       |
| SMF4743A    | 43A                 | 12.35                       | 13                           | 13.65                       | 19           | 10                                   | 700                  | 0.25     | 5                               | 9.9                | 344                   | 69                       |
| SMF4744A    | 44A                 | 14.25                       | 15                           | 15.75                       | 17           | 14                                   | 700                  | 0.25     | 5                               | 11.4               | 304                   | 61                       |
| SMF4745A    | 45A                 | 15.2                        | 16                           | 16.8                        | 15.5         | 16                                   | 700                  | 0.25     | 5                               | 12.2               | 285                   | 57                       |
| SMF4746A    | 46A                 | 17.1                        | 18                           | 18.9                        | 14           | 20                                   | 750                  | 0.25     | 5                               | 13.7               | 250                   | 50                       |
| SMF4747A    | 47A                 | 19                          | 20                           | 21                          | 12.5         | 22                                   | 750                  | 0.25     | 5                               | 15.2               | 225                   | 45                       |
| SMF4748A    | 48A                 | 20.9                        | 22                           | 23.1                        | 11.5         | 23                                   | 750                  | 0.25     | 5                               | 16.7               | 205                   | 41                       |
| SMF4749A    | 49A                 | 22.8                        | 24                           | 25.2                        | 10.5         | 25                                   | 750                  | 0.25     | 5                               | 18.2               | 190                   | 38                       |
| SMF4750A    | 50A                 | 25.65                       | 27                           | 28.35                       | 9.5          | 35                                   | 750                  | 0.25     | 5                               | 20.6               | 170                   | 34                       |
| SMF4751A    | 51A                 | 28.5                        | 30                           | 31.5                        | 8.5          | 40                                   | 1000                 | 0.25     | 5                               | 22.8               | 150                   | 30                       |
| SMF4752A    | 52A                 | 31.35                       | 33                           | 34.65                       | 7.5          | 45                                   | 1000                 | 0.25     | 5                               | 25.1               | 135                   | 27                       |
| SMF4753A    | 53A                 | 34.2                        | 36                           | 37.8                        | 7            | 50                                   | 1000                 | 0.25     | 5                               | 27.4               | 125                   | 25                       |
| SMF4754A    | 54A                 | 37.05                       | 39                           | 40.95                       | 6.5          | 60                                   | 1000                 | 0.25     | 5                               | 29.7               | 115                   | 23                       |
| SMF4755A    | 55A                 | 40.85                       | 43                           | 45.15                       | 6            | 70                                   | 1500                 | 0.25     | 5                               | 32.7               | 110                   | 22                       |
| SMF4756A    | 56A                 | 44.65                       | 47                           | 49.35                       | 5.5          | 80                                   | 1500                 | 0.25     | 5                               | 35.8               | 95                    | 19                       |
| SMF4757A    | 57A                 | 48.45                       | 51                           | 53.55                       | 5            | 95                                   | 1500                 | 0.25     | 5                               | 38.8               | 90                    | 18                       |
| SMF4758A    | 58A                 | 53.2                        | 56                           | 58.8                        | 4.5          | 110                                  | 2000                 | 0.25     | 5                               | 42.6               | 80                    | 16                       |
| SMF4759A    | 59A                 | 58.9                        | 62                           | 65.1                        | 4            | 125                                  | 2000                 | 0.25     | 5                               | 47.1               | 70                    | 14                       |
| SMF4760A    | 60A                 | 64.6                        | 68                           | 71.4                        | 3.7          | 150                                  | 2000                 | 0.25     | 5                               | 51.7               | 65                    | 13                       |
| SMF4761A    | 61A                 | 71.25                       | 75                           | 78.75                       | 3.3          | 175                                  | 2000                 | 0.25     | 5                               | 56                 | 60                    | 12                       |
| SMF4762A    | 62A                 | 77.9                        | 82                           | 86.1                        | 3            | 200                                  | 3000                 | 0.25     | 5                               | 62.2               | 55                    | 11                       |
| SMF4763A    | 63A                 | 86.45                       | 91                           | 95.55                       | 2.8          | 250                                  | 3000                 | 0.25     | 5                               | 69.2               | 50                    | 10                       |
| SMF4764A    | 64A                 | 95                          | 100                          | 105                         | 2.5          | 350                                  | 3000                 | 0.25     | 5                               | 76                 | 45                    | 9                        |

Notes:

- (1) Nominal Zener voltage Range: 95% Typ.  $V_Z$  (1) at  $I_{ZT}$  ----105% Typ.  $V_Z$  (1) at  $I_{ZT}$
- (2) Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on  $I_{ZT}$  per JEDEC method

The curve above is for reference only.

## Characteristics (Typical)

FIG1: Maximum Continuous Power Dissipation



FIG2: Typical Zener Impedance

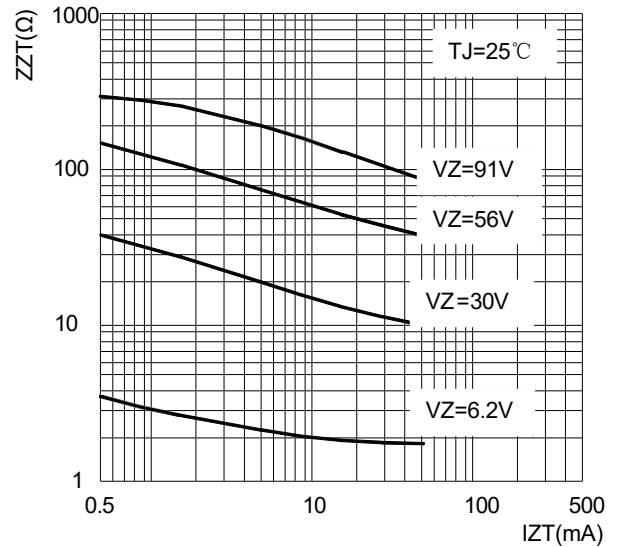


FIG3: Typical Temperature Coefficients

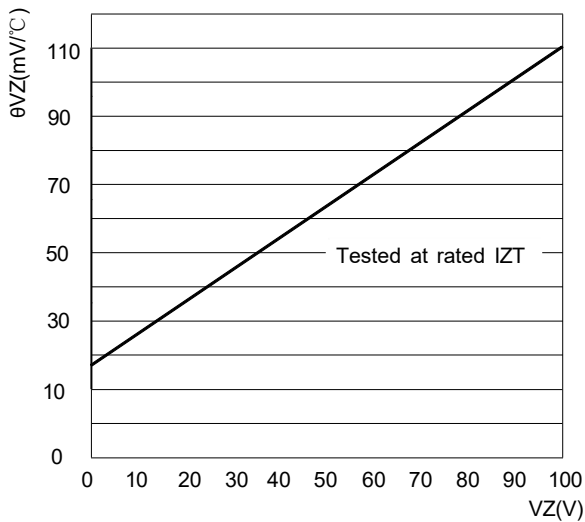


FIG4: Typical Instantaneous Forward Characteristics for SMA4763A

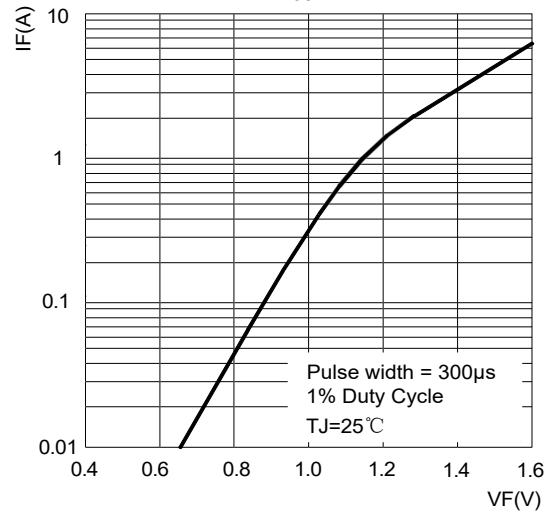


FIG5: Typical Reverse Characteristics



The curve above is for reference only.