

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>SPECIFICATION SHEET NO.</b>          | S0326- SMF090CAS090CA                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                   |
| <b>ORIGINAL MFG/PART NO.</b>            | MDD Diodes/SMF9.0CA                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                   |
| <b>NEXTGEN PART CODE</b>                | SMF090CAS090CA                                                                                                                                                                                                                                                                                                                                                                                                                         | Indicate This Code For <a href="#">RFQ</a> /Order |
| <b>DATE</b>                             | Mar. 26, 2025                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                   |
| <b>REVISION</b>                         | A5                                                                                                                                                                                                                                                                                                                                                                                                                                     | Updated With Most Recent Data                     |
| <b>DESCRIPTION AND MAIN PARAMETRICS</b> | <p>SMD Transient Voltage Suppressor (TVs) Diodes, SMF Series</p> <p>Case SMF/SOD-123FL, 2 Pads,</p> <p>Bidirectional Type, Stand-off Voltage 9.0V</p> <p>Peak Pulse Power: 200 Watts, Peak Pulse Current: 13A Max.</p> <p>Operating Junction Temp. Range -55°C ~+150°C</p> <p>Package in Tape/Reel, 3000pcs/Reel</p> <p>RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)</p> |                                                   |
| <b>CUSTOMER</b>                         |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |
| <b>CUSTOMER PART NUMBER</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |
| <b>CROSS REF. PART NUMBER</b>           |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |
| <b>MEMO</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |

|                               |                                                                                     |                                                                                      |                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>VENDOR APPROVE</b>         |                                                                                     |                                                                                      |                                                                                       |
| Issued/Checked/Approved       |  |  |  |
| Effective Date: Mar. 26, 2025 |                                                                                     |                                                                                      |                                                                                       |

|                         |
|-------------------------|
| <b>CUSTOMER APPROVE</b> |
|                         |
| Date:                   |

## MAIN FEATURE

- Glass Passivated Junction
- Plastic package has Underwriters Laboratory Flammability
- 200W Peak Pulse Power
- Uni-Directional and Bi-directional Polarity Option
- Low Leakage
- Low Profile Package
- Low Inductance
- Excellent Clamping Capability
- Short Lead Time
- Cross Competitors Parts and More.
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)



*Image shown is a representation only.*

*Exact specifications should be obtained  
from the product dimension.*



## APPLICATION

- For SMD Application

## ELECTRICAL CHARACTERISTICS

- See Page 5 ~Page 11 For Different Part Code
- All Parameters are Subject To NextGen Components' Final Confirmation

## HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code SMF090CAS090CA For RFQ and Order.

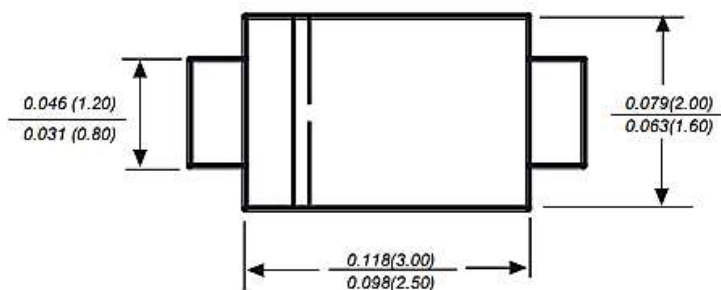
## PART CODE GUIDE

**RFQ**  
[Request For Quotation](#)

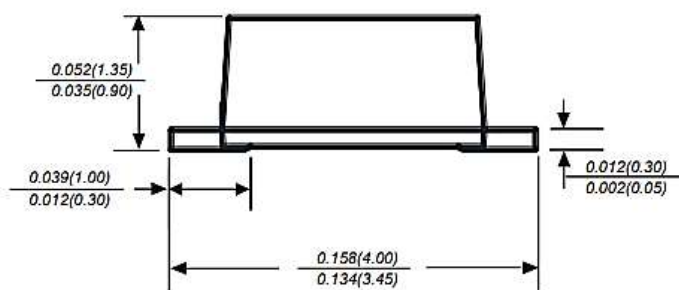
| CODE  | NAME                           | KEY SPECIFICATION OPTION                                                   |
|-------|--------------------------------|----------------------------------------------------------------------------|
| SMF   | Product Series Code            | SMD Transient Voltage Suppressors (TVs) Diodes, Case SMF/SOD-123FL, 2 Pads |
| 090CA | Mode code                      | 090CA: Stand-off Voltage 9.0V, Bidirectional Polarity Type                 |
| S     | Internal Control Code          | Letter or Digits (A~Z, a~z or 1~9)                                         |
| 090CA | Marking Code                   | Marking "9.0CA" On The Case Surface                                        |
| XX    | Special/Custom Parameters Code | Letter or Digits (A~Z, a~z or 1~9) for Special Parametric;<br>Blank: N/A   |

**DIMENSION**- Unit: Inch [mm], Case SMF/SOD-123FL Outline

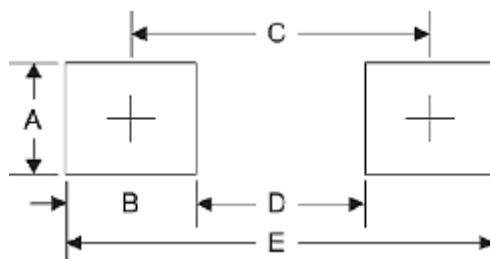
Top View



Side View



Recommend Pad Layout



| SYMBOL      | A     | B     | C     | D     | E     |
|-------------|-------|-------|-------|-------|-------|
| Unit (Inch) | 0.047 | 0.047 | 0.126 | 0.079 | 0.173 |
| Unit (mm)   | 1.20  | 1.20  | 3.20  | 2.00  | 4.40  |

## MECHANICAL DATA

| CASE                                          | TERMINALS                                     | POLARITY                              | MOUNTING POSITION | MARKING                     | WEIGHT PER PIECE                 |
|-----------------------------------------------|-----------------------------------------------|---------------------------------------|-------------------|-----------------------------|----------------------------------|
| JEDEC<br>SMF/SOD-123FL<br>Molded Plastic Body | Solderable Per<br>MIL-STD-750,<br>Method 2026 | Polarity Symbol<br>Marking On<br>Body | Any               | See<br>Marking Code<br>List | 0.00048<br>Ounce, 0.015<br>Grams |

## MAX. RATING & CHARACTERISTICS - Ratings At 25°C Ambient Temperature Unless Otherwise Specified.

| PARAMETER                                                          | SYMBOLS    | VALUE                  | UNITS |
|--------------------------------------------------------------------|------------|------------------------|-------|
| Peak Pulse Power Dissipation on TA=25°C<br>(Note 1, 2, 5 Fig 1)    | PPPM       | 200                    | W     |
| Peak Forward Surge Current 8.3ms Single Half Sine Wave<br>(Note 3) | IFSM (UNI) | 20                     | A     |
| Peak Pulse Current on 10/1000 us waveform<br>(Note 1) Fig 2        | IPPM       | See Page 6~<br>Page 11 | A     |
| Steady State Power Dissipation (Note 4)                            | PM(AV)     | 1.0                    | W     |
| Operating Junction And Storage Temp. Range                         | TJ, TSTG   | -55 ~ +150             | °C    |
| Typical Thermal Resistance                                         | RθJA       | 180                    | °C/W  |

### Note

1. Non-repetitive Current Pulse, Per Fig 3 And Derated Above TA=25 °C Per Fig 2
2. Mounted On 5.0\*5.0mm Copper Pads To Each Terminal
3. 8.3ms Single Half Sinewave Or Equivalent Square Wave, Duty Cycle=4 Pulsed Per Minute Max.
4. Lead Temperature At TL =75 °C
5. Peak Pulse Power Waveform Is tp =10/1000μs
6. A Transient Suppressor Is Selected According To The Working Peak Reverse Voltage (V<sub>RWM</sub>), Which Should Be Equal To Or Great Than The DC Or Continuous Peak Operating Voltage Level.

**UNIDIRECTIONAL TYPE- ELECTRICAL CHARACTERISTICS** - Ta = 25°C

| Part Code      | Reverse Stand-off Voltage | Breakdown Voltage |      | Test Current | Reverse Leakage Max. | Max. Clamp Voltage | Peak Pulse Current | Marking Code |
|----------------|---------------------------|-------------------|------|--------------|----------------------|--------------------|--------------------|--------------|
|                |                           | VBR @ IT          |      |              |                      |                    |                    |              |
|                | VRMV                      | Min               | Max  | IT           | IR @ VRWM            | VC @ IPPM          | IPPM               |              |
|                | V                         | V                 | V    | mA           | µA                   | V                  | A                  |              |
| SMF050A00S050A | 5                         | 6.4               | 7    | 10           | 400                  | 9.2                | 21.7               | 5.0A         |
| SMF060A00S060A | 6                         | 6.67              | 7.37 | 10           | 400                  | 10.3               | 19.4               | 6.0A         |
| SMF065A00S065A | 6.5                       | 7.22              | 7.98 | 10           | 250                  | 11.2               | 17.9               | 6.5A         |
| SMF070A00S070A | 7                         | 7.78              | 8.6  | 10           | 100                  | 12                 | 16.7               | 7.0A         |
| SMF075A00S075A | 7.5                       | 8.33              | 9.21 | 1            | 50                   | 12.9               | 15.5               | 7.5A         |
| SMF080A00S080A | 8                         | 8.89              | 9.83 | 1            | 25                   | 13.6               | 14.7               | 8.0A         |
| SMF085A00S085A | 8.5                       | 9.44              | 10.4 | 1            | 10                   | 14.4               | 13.9               | 8.5A         |
| SMF090A00S090A | 9                         | 10                | 11.1 | 1            | 5                    | 15.4               | 13                 | 9.0A         |
| SMF10A0000S10A | 10                        | 11.1              | 12.3 | 1            | 2.5                  | 17                 | 11.8               | 10A          |
| SMF11A0000S11A | 11                        | 12.2              | 13.5 | 1            | 2.5                  | 18.2               | 11                 | 11A          |
| SMF12A0000S12A | 12                        | 13.3              | 14.7 | 1            | 2.5                  | 19.9               | 10.1               | 12A          |
| SMF13A0000S13A | 13                        | 14.4              | 15.9 | 1            | 1                    | 21.5               | 9.3                | 13A          |
| SMF14A0000S14A | 14                        | 15.6              | 17.2 | 1            | 1                    | 23.2               | 8.6                | 14A          |
| SMF15A0000S15A | 15                        | 16.7              | 18.5 | 1            | 1                    | 24.4               | 8.2                | 15A          |
| SMF16A0000S16A | 16                        | 17.8              | 19.7 | 1            | 1                    | 26                 | 7.7                | 16A          |
| SMF17A0000S17A | 17                        | 18.9              | 20.9 | 1            | 1                    | 27.6               | 7.2                | 17A          |
| SMF18A0000S18A | 18                        | 20                | 22.1 | 1            | 1                    | 29.2               | 6.8                | 18A          |
| SMF20A0000S20A | 20                        | 22.2              | 24.5 | 1            | 1                    | 32.4               | 6.2                | 20A          |
| SMF22A0000S22A | 22                        | 24.4              | 26.9 | 1            | 1                    | 35.5               | 5.6                | 22A          |
| SMF24A0000S24A | 24                        | 26.7              | 29.5 | 1            | 1                    | 38.9               | 5.1                | 24A          |

**UNIDIRECTIONAL TYPE- ELECTRICAL CHARACTERISTICS** - Ta = 25°C

| Part Code      | Reverse Stand-off Voltage | Breakdown Voltage |      | Test Current | Reverse Leakage Max. | Max. Clamp Voltage | Peak Pulse Current | Marking Code |
|----------------|---------------------------|-------------------|------|--------------|----------------------|--------------------|--------------------|--------------|
|                |                           | VBR @ IT          |      |              |                      |                    |                    |              |
|                | VRMV                      | Min               | Max  | IT           | IR @ VRWM            | VC @ IPPM          | IPPM               |              |
|                | V                         | V                 | V    | mA           | µA                   | V                  | A                  |              |
| SMF26A0000S26A | 26                        | 28.9              | 31.9 | 1            | 1                    | 42.1               | 4.8                | 26A          |
| SMF28A0000S28A | 28                        | 31.1              | 34.4 | 1            | 1                    | 45.4               | 4.4                | 28A          |
| SMF30A0000S30A | 30                        | 33.3              | 36.8 | 1            | 1                    | 48.4               | 4.1                | 30A          |
| SMF33A0000S33A | 33                        | 36.7              | 40.6 | 1            | 1                    | 53.3               | 3.8                | 33A          |
| SMF36A0000S36A | 36                        | 40                | 44.2 | 1            | 1                    | 58.1               | 3.4                | 36A          |
| SMF40A0000S40A | 40                        | 44.4              | 49.1 | 1            | 1                    | 64.5               | 3.1                | 40A          |
| SMF43A0000S43A | 43                        | 47.8              | 52.8 | 1            | 1                    | 69.4               | 2.9                | 43A          |
| SMF45A0000S45A | 45                        | 50                | 55.3 | 1            | 1                    | 72.7               | 2.8                | 45A          |
| SMF48A0000S48A | 48                        | 53.3              | 58.9 | 1            | 1                    | 77.4               | 2.6                | 48A          |
| SMF51A0000S51A | 51                        | 56.7              | 62.7 | 1            | 1                    | 82.4               | 2.4                | 51A          |
| SMF54A0000S54A | 54                        | 60                | 66.3 | 1            | 1                    | 87.1               | 2.3                | 54A          |
| SMF58A0000S58A | 58                        | 64.4              | 71.2 | 1            | 1                    | 93.6               | 2.1                | 58A          |
| SMF60A0000S60A | 60                        | 66.7              | 73.7 | 1            | 1                    | 96.8               | 1.8                | 60A          |
| SMF64A0000S64A | 64                        | 71.1              | 78.6 | 1            | 1                    | 103                | 1.7                | 64A          |
| SMF70A0000S70A | 70                        | 77.8              | 86   | 1            | 1                    | 113                | 1.5                | 70A          |
| SMF75A0000S75A | 75                        | 83.3              | 92.1 | 1            | 1                    | 121                | 1.4                | 75A          |
| SMF78A0000S78A | 78                        | 86.7              | 95.8 | 1            | 1                    | 126                | 1.4                | 78A          |
| SMF85A0000S85A | 85                        | 94.4              | 104  | 1            | 1                    | 137                | 1.3                | 85A          |
| SMF90A0000S90A | 90                        | 100               | 111  | 1            | 1                    | 146                | 1.2                | 90A          |
| SMF100A00S100A | 100                       | 111               | 123  | 1            | 1                    | 162                | 1.1                | 100A         |

**UNIDIRECTIONAL TYPE- ELECTRICAL CHARACTERISTICS - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage | Breakdown Voltage |     | Test Current | Reverse Leakage Max. | Max. Clamp Voltage | Peak Pulse Current | Marking Code |
|----------------|---------------------------|-------------------|-----|--------------|----------------------|--------------------|--------------------|--------------|
|                |                           | VBR @ IT          |     |              |                      |                    |                    |              |
|                | VRMV                      | Min               | Max | IT           | IR @ VRWM            | VC @ IPPM          | IPPM               |              |
|                | V                         | V                 | V   | mA           | µA                   | V                  | A                  |              |
| SMF110A00S110A | 110                       | 122               | 135 | 1            | 1                    | 177                | 1                  | 110A         |
| SMF120A00S120A | 120                       | 133               | 147 | 1            | 1                    | 193                | 0.9                | 120A         |
| SMF130A00S130A | 130                       | 144               | 159 | 1            | 1                    | 209                | 0.8                | 130A         |
| SMF150A00S150A | 150                       | 167               | 185 | 1            | 1                    | 243                | 0.7                | 150A         |
| SMF160A00S160A | 160                       | 178               | 197 | 1            | 1                    | 259                | 0.7                | 160A         |
| SMF170A00S170A | 170                       | 189               | 209 | 1            | 1                    | 275                | 0.6                | 170A         |
| SMF180A00S180A | 180                       | 201               | 222 | 1            | 1                    | 292                | 0.5                | 180A         |
| SMF190A00S190A | 190                       | 211               | 232 | 1            | 1                    | 308                | 0.5                | 190A         |
| SMF200A00S200A | 200                       | 224               | 247 | 1            | 1                    | 324                | 0.5                | 200A         |
| SMF220A00S220A | 220                       | 246               | 272 | 1            | 1                    | 356                | 0.5                | 220A         |
| SMF250A00S250A | 250                       | 279               | 309 | 1            | 1                    | 405                | 0.5                | 250A         |
| SMF300A00S300A | 300                       | 335               | 371 | 1            | 1                    | 486                | 0.45               | 300A         |
| SMF350A00S350A | 350                       | 391               | 432 | 1            | 1                    | 567                | 0.4                | 350A         |
| SMF400A00S400A | 400                       | 447               | 494 | 1            | 1                    | 648                | 0.35               | 400A         |
| SMF440A00S440A | 440                       | 492               | 543 | 1            | 1                    | 713                | 0.3                | 440A         |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |

**BIDIRECTIONAL TYPE- ELECTRICAL CHARACTERISTICS - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage | Breakdown Voltage |      | Test Current | Reverse Leakage Max. | Max. Clamp Voltage | Peak Pulse Current | Marking Code |
|----------------|---------------------------|-------------------|------|--------------|----------------------|--------------------|--------------------|--------------|
|                |                           | VBR @ IT          |      |              |                      |                    |                    |              |
|                | VRMV                      | Min               | Max  | IT           | IR @ VRWM            | VC @ IPPM          | IPPM               |              |
|                | V                         | V                 | V    | mA           | μA                   | V                  | A                  |              |
| SMF050CAS050CA | 5                         | 6.4               | 7    | 10           | 400                  | 9.2                | 21.7               | 5.0CA        |
| SMF060CAS060CA | 6                         | 6.67              | 7.37 | 10           | 400                  | 10.3               | 19.4               | 6.0CA        |
| SMF065CAS065CA | 6.5                       | 7.22              | 7.98 | 10           | 250                  | 11.2               | 17.9               | 6.5CA        |
| SMF070CAS070CA | 7                         | 7.78              | 8.6  | 10           | 100                  | 12                 | 16.7               | 7.0CA        |
| SMF075CAS075CA | 7.5                       | 8.33              | 9.21 | 1            | 50                   | 12.9               | 15.5               | 7.5CA        |
| SMF080CAS080CA | 8                         | 8.89              | 9.83 | 1            | 25                   | 13.6               | 14.7               | 8.0CA        |
| SMF085CAS085CA | 8.5                       | 9.44              | 10.4 | 1            | 10                   | 14.4               | 13.9               | 8.5CA        |
| SMF090CAS090CA | 9                         | 10                | 11.1 | 1            | 5                    | 15.4               | 13                 | 9.0CA        |
| SMF10CA00S10CA | 10                        | 11.1              | 12.3 | 1            | 2.5                  | 17                 | 11.8               | 10CA         |
| SMF11CA00S11CA | 11                        | 12.2              | 13.5 | 1            | 2.5                  | 18.2               | 11                 | 11CA         |
| SMF12CA00S12CA | 12                        | 13.3              | 14.7 | 1            | 2.5                  | 19.9               | 10.1               | 12CA         |
| SMF13CA00S13CA | 13                        | 14.4              | 15.9 | 1            | 1                    | 21.5               | 9.3                | 13CA         |
| SMF14CA00S14CA | 14                        | 15.6              | 17.2 | 1            | 1                    | 23.2               | 8.6                | 14CA         |
| SMF15CA00S15CA | 15                        | 16.7              | 18.5 | 1            | 1                    | 24.4               | 8.2                | 15CA         |
| SMF16CA00S16CA | 16                        | 17.8              | 19.7 | 1            | 1                    | 26                 | 7.7                | 16CA         |
| SMF17CA00S17CA | 17                        | 18.9              | 20.9 | 1            | 1                    | 27.6               | 7.2                | 17CA         |
| SMF18CA00S18CA | 18                        | 20                | 22.1 | 1            | 1                    | 29.2               | 6.8                | 18CA         |
| SMF20CA00S20CA | 20                        | 22.2              | 24.5 | 1            | 1                    | 32.4               | 6.2                | 20CA         |
| SMF22CA00S22CA | 22                        | 24.4              | 26.9 | 1            | 1                    | 35.5               | 5.6                | 22CA         |
| SMF24CA00S24CA | 24                        | 26.7              | 29.5 | 1            | 1                    | 38.9               | 5.1                | 24CA         |

**BIDIRECTIONAL TYPE- ELECTRICAL CHARACTERISTICS - Ta = 25°C**

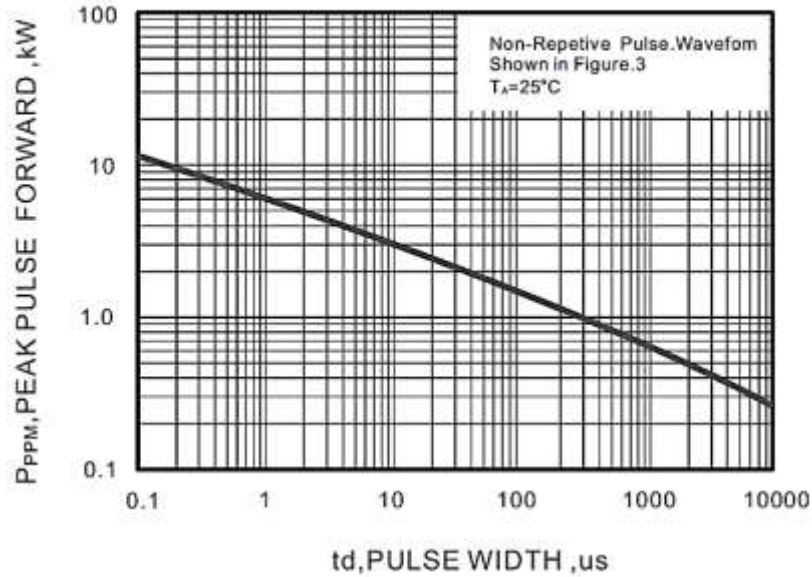
| Part Code      | Reverse Stand-off Voltage | Breakdown Voltage |      | Test Current | Reverse Leakage Max. | Max. Clamp Voltage | Peak Pulse Current | Marking Code |
|----------------|---------------------------|-------------------|------|--------------|----------------------|--------------------|--------------------|--------------|
|                |                           | VBR @ IT          |      |              |                      |                    |                    |              |
|                | VRMV                      | Min               | Max  | IT           | IR @ VRWM            | VC @ IPPM          | IPPM               |              |
|                | V                         | V                 | V    | mA           | µA                   | V                  | A                  |              |
| SMF26CA00S26CA | 26                        | 28.9              | 31.9 | 1            | 1                    | 42.1               | 4.8                | 26CA         |
| SMF28CA00S28CA | 28                        | 31.1              | 34.4 | 1            | 1                    | 45.4               | 4.4                | 28CA         |
| SMF30CA00S30CA | 30                        | 33.3              | 36.8 | 1            | 1                    | 48.4               | 4.1                | 30CA         |
| SMF33CA00S33CA | 33                        | 36.7              | 40.6 | 1            | 1                    | 53.3               | 3.8                | 33CA         |
| SMF36CA00S36CA | 36                        | 40                | 44.2 | 1            | 1                    | 58.1               | 3.4                | 36CA         |
| SMF40CA00S40CA | 40                        | 44.4              | 49.1 | 1            | 1                    | 64.5               | 3.1                | 40CA         |
| SMF43CA00S43CA | 43                        | 47.8              | 52.8 | 1            | 1                    | 69.4               | 2.9                | 43CA         |
| SMF45CA00S45CA | 45                        | 50                | 55.3 | 1            | 1                    | 72.7               | 2.8                | 45CA         |
| SMF48CA00S48CA | 48                        | 53.3              | 58.9 | 1            | 1                    | 77.4               | 2.6                | 48CA         |
| SMF51CA00S51CA | 51                        | 56.7              | 62.7 | 1            | 1                    | 82.4               | 2.4                | 51CA         |
| SMF54CA00S54CA | 54                        | 60                | 66.3 | 1            | 1                    | 87.1               | 2.3                | 54CA         |
| SMF58CA00S58CA | 58                        | 64.4              | 71.2 | 1            | 1                    | 93.6               | 2.1                | 58CA         |
| SMF60CA00S60CA | 60                        | 66.7              | 73.7 | 1            | 1                    | 96.8               | 1.8                | 60CA         |
| SMF64CA00S64CA | 64                        | 71.1              | 78.6 | 1            | 1                    | 103                | 1.7                | 64CA         |
| SMF70CA00S70CA | 70                        | 77.8              | 86   | 1            | 1                    | 113                | 1.5                | 70CA         |
| SMF75CA00S75CA | 75                        | 83.3              | 92.1 | 1            | 1                    | 121                | 1.4                | 75CA         |
| SMF78CA00S78CA | 78                        | 86.7              | 95.8 | 1            | 1                    | 126                | 1.4                | 78CA         |
| SMF85CA00S85CA | 85                        | 94.4              | 104  | 1            | 1                    | 137                | 1.3                | 85CA         |
| SMF90CA00S90CA | 90                        | 100               | 111  | 1            | 1                    | 146                | 1.2                | 90CA         |
| SMF100CAS100CA | 100                       | 111               | 123  | 1            | 1                    | 162                | 1.1                | 100CA        |

**BIDIRECTIONAL TYPE- ELECTRICAL CHARACTERISTICS - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage | Breakdown Voltage |     | Test Current | Reverse Leakage Max. | Max. Clamp Voltage | Peak Pulse Current | Marking Code |
|----------------|---------------------------|-------------------|-----|--------------|----------------------|--------------------|--------------------|--------------|
|                |                           | VBR @ IT          |     |              |                      |                    |                    |              |
|                | VRMV                      | Min               | Max | IT           | IR @ VRWM            | VC @ IPPM          | IPPM               |              |
|                | V                         | V                 | V   | mA           | μA                   | V                  | A                  |              |
| SMF110CAS110CA | 110                       | 122               | 135 | 1            | 1                    | 177                | 1                  | 110CA        |
| SMF120CAS120CA | 120                       | 133               | 147 | 1            | 1                    | 193                | 0.9                | 120CA        |
| SMF130CAS130CA | 130                       | 144               | 159 | 1            | 1                    | 209                | 0.8                | 130CA        |
| SMF150CAS150CA | 150                       | 167               | 185 | 1            | 1                    | 243                | 0.7                | 150CA        |
| SMF160CAS160CA | 160                       | 178               | 197 | 1            | 1                    | 259                | 0.7                | 160CA        |
| SMF170CAS170CA | 170                       | 189               | 209 | 1            | 1                    | 275                | 0.6                | 170CA        |
| SMF180CAS180CA | 180                       | 201               | 222 | 1            | 1                    | 292                | 0.5                | 180CA        |
| SMF190CAS190CA | 190                       | 211               | 232 | 1            | 1                    | 308                | 0.5                | 190CA        |
| SMF200CAS200CA | 200                       | 224               | 247 | 1            | 1                    | 324                | 0.5                | 200CA        |
| SMF220CAS220CA | 220                       | 246               | 272 | 1            | 1                    | 356                | 0.5                | 220CA        |
| SMF250CAS250CA | 250                       | 279               | 309 | 1            | 1                    | 405                | 0.5                | 250CA        |
| SMF300CAS300CA | 300                       | 335               | 371 | 1            | 1                    | 486                | 0.45               | 300CA        |
| SMF350CAS350CA | 350                       | 391               | 432 | 1            | 1                    | 567                | 0.4                | 350CA        |
| SMF400CAS400CA | 400                       | 447               | 494 | 1            | 1                    | 648                | 0.35               | 400CA        |
| SMF440CAS440CA | 440                       | 492               | 543 | 1            | 1                    | 713                | 0.3                | 440CA        |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |
|                |                           |                   |     |              |                      |                    |                    |              |

**RATINGS AND CHARACTERISTICS CURVES-** For Reference Only,  $T_a=25^{\circ}\text{C}$  Unless Otherwise Specified.

**Fig.1 Peak Pulse Power Rating Curve**

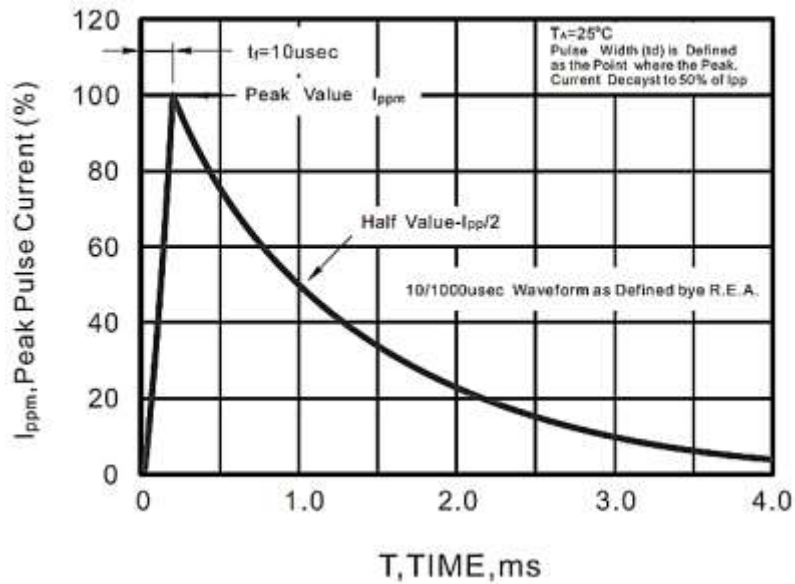


**Fig.2 Forward Current Derating Curve**



**RATINGS AND CHARACTERISTICS CURVES-** For Reference Only,  $T_a=25^{\circ}\text{C}$  Unless Otherwise Specified.

**Fig.3 Pulse Waveform**



**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**

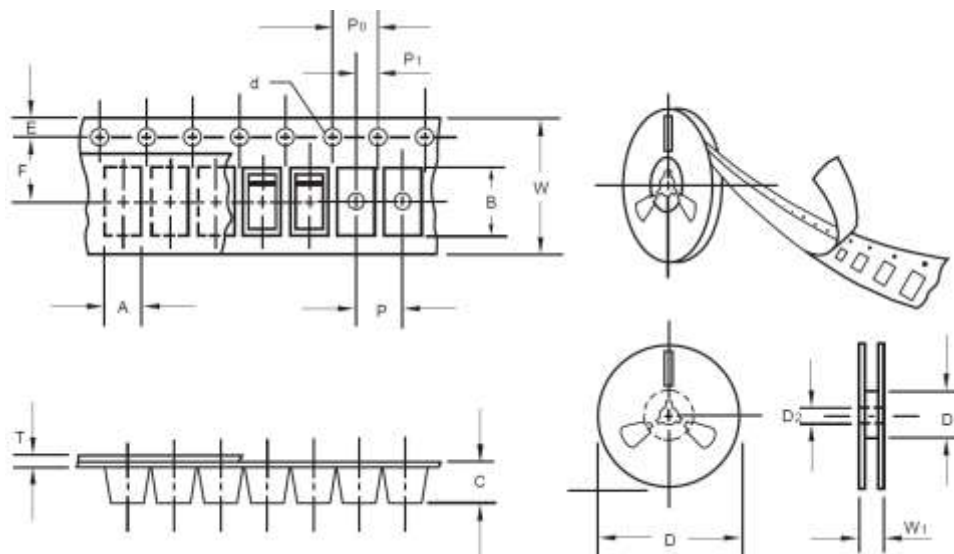


**RECOMMENDED SOLDERING PARAMETERS – FOR REFERENCE ONLY**



| PROFILE FEATURE                                 |                           | PB-FREE ASSEMBLY  |
|-------------------------------------------------|---------------------------|-------------------|
| Average Ramp-up Rate (Ts Max to Tp)             |                           | 3°C/second Max    |
| Preheat                                         | Temperature Min (Ts Min.) | 150°C             |
|                                                 | Temperature Max (Ts Max.) | 200°C             |
|                                                 | Time (ts Min. to ts Max.) | 60 ~ 180 seconds  |
| Time maintained above                           | Temperature (TL)          | 217°C             |
|                                                 | Time (tl)                 | 60 ~ 150 seconds  |
| Peak/Classification Temperature (Tp)            |                           | 260 °C            |
| Time within 5°C of actual Peak Temperature (tp) |                           | 20 ~ 40 seconds   |
| Ramp-down Rate                                  |                           | 5 °C /Second Max. |
| Time 25 °C to Peak Temperature                  |                           | 8 Minutes Max.    |
| Suggest reflow times                            |                           | 3 Times Max.      |

**TAPE/REEL** - Unit: mm, All Devices are packed in accordance with EIA standard RS-481-A and specifications



| Item                    | Symbol | Tolerance | SMF/SOD-123FL |
|-------------------------|--------|-----------|---------------|
| Carrier width           | A      | 0.1       | 2.10          |
| Carrier Length          | B      | 0.1       | 4.00          |
| Carrier Depth           | C      | 0.1       | 1.60          |
| Sprocket hole           | d      | 0.05      | 1.55          |
| 7"Reel outside diameter | D      | 2.0       | 178.00        |
| 7"Reel inner diameter   | D1     | Min.      | 50.00         |
| Feed hole diameter      | D2     | 0.5       | 13.00         |
| Sprocket hole position  | E      | 0.1       | 1.75          |
| Punch hole position     | F      | 0.1       | 3.50          |
| Punch hole pitch        | P      | 0.1       | 4.00          |
| Sprocket hole pitch     | P0     | 0.1       | 4.00          |
| Embossment center       | P1     | 0.1       | 2.00          |
| Overall tape thickness  | T      | 0.1       | 0.25          |
| Tape width              | W      | 0.3       | 8.15          |
| Reel width              | W1     | 1.0       | 10.50         |
| Qty. Per Reel (pcs)     | 3000   |           |               |

## IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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