

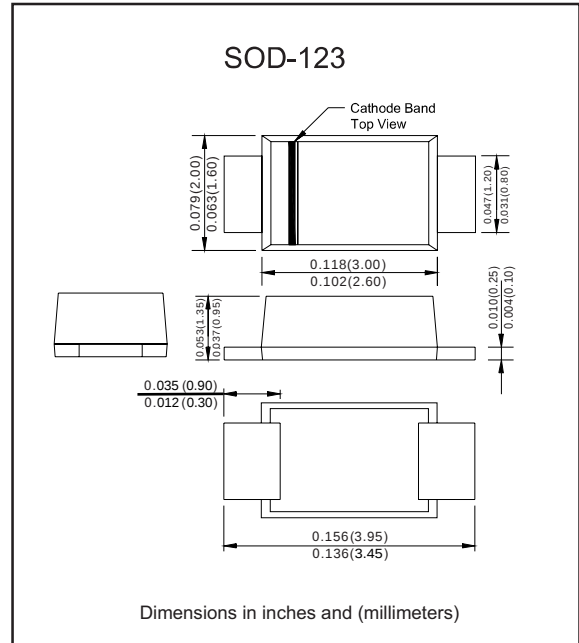
### Features

- Planar technology
- Stand-off voltage: 3.3V
- 400W peak pulse power capability at 10/1000μs waveform
- IEC61000-4-2 (ESD) ±30kV(air), ±30kV (contact)
- Excellent clamping capability
- Fast response time
- Compliant to Halogen-free

### Mechanical data

- Case : SOD-123
- Terminals solder plated, solderable per J-STD-002
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package outline



### Maximum ratings (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter                                          | Symbol                | Value       | Unit                        |
|----------------------------------------------------|-----------------------|-------------|-----------------------------|
| Storage and operating junction temperature range   | $T_{\text{STG}}/T_J$  | -55 to +150 | $^{\circ}\text{C}$          |
| Peak pulse power dissipation at 10/1000μs waveform | $P_{\text{PP}}$       | 400         | W                           |
| Typical thermal resistance junction to lead        | $R_{\theta\text{JL}}$ | 100         | $^{\circ}\text{C}/\text{W}$ |
| Typical thermal resistance junction to ambient     | $R_{\theta\text{JA}}$ | 220         | $^{\circ}\text{C}/\text{W}$ |

### Electrical characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

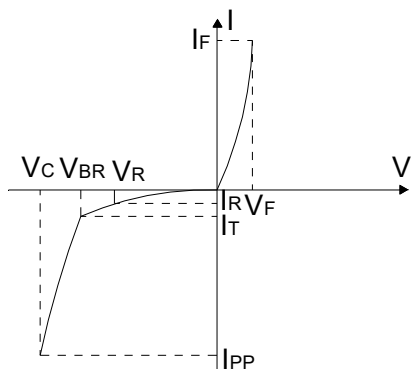
| Part Number | $V_R$<br>V | $I_R@V_R$<br>μA(max) | $V_{\text{BR}}@I_T$<br>V(min) | $I_T$<br>mA | $V_C@I_{\text{PP}}$<br>V(max) | $I_{\text{PP}}^{①}$<br>A(max) | $C_o^{②}$<br>pF(typ.) | Marking |
|-------------|------------|----------------------|-------------------------------|-------------|-------------------------------|-------------------------------|-----------------------|---------|
| S4MF3.3A    | 3.3        | 80                   | 4.1                           | 1           | 7.3                           | 54.7                          | 2900                  | U03L    |

① Surge waveform: 10/1000μs

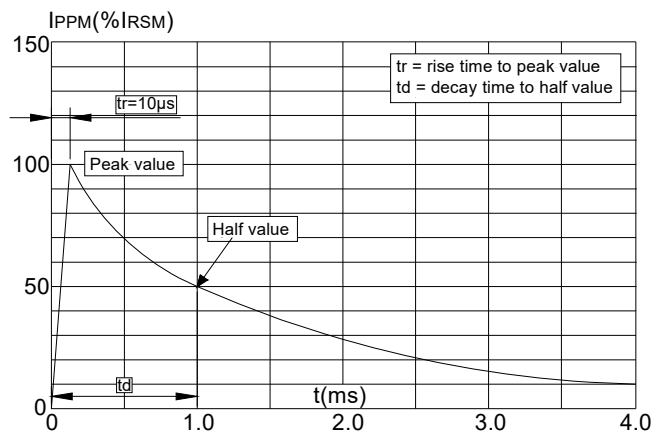
②  $C_o$  is measured at:  $V_{\text{bias}}=0\text{V}$ ,  $V_{\text{RMS}}=0.1\text{V}$ ,  $f=1\text{MHz}$

### Rating and characteristic curves

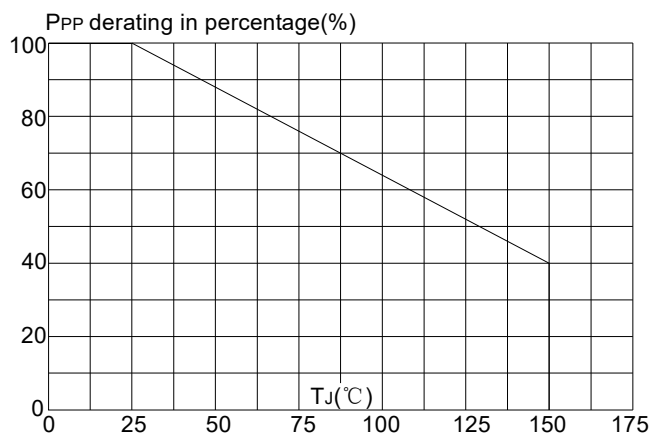
**FIG.1: V - I curve characteristics (Uni-directional)**



**FIG.2: Pulse waveform**



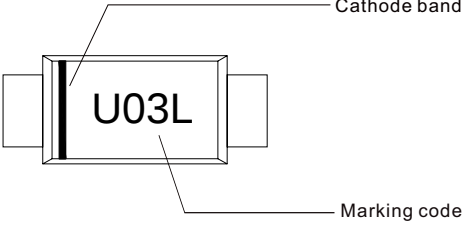
**FIG.3: Pulse derating curve**



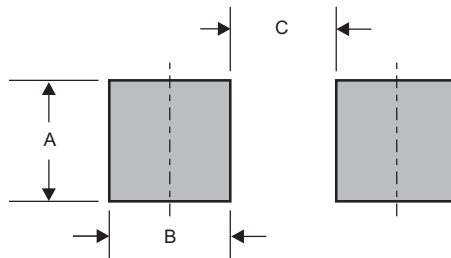
### Pinning information

| Pin                                           | Simplified outline                                                                | Symbol                                                                              |
|-----------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Uni-Directional<br>Pin1 cathode<br>Pin2 anode |  |  |

### Marking

| Type number | Example                                                                             |
|-------------|-------------------------------------------------------------------------------------|
| S4MF3.3A    |  |

### Suggested solder pad layout



Dimensions in inches and (millimeters)

| PACKAGE | A            | B            | C            |
|---------|--------------|--------------|--------------|
| SOD-123 | 0.056 (1.40) | 0.062 (1.55) | 0.067 (1.70) |