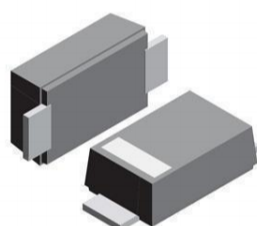


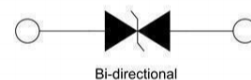
## DESCRIPTION:

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.

## Package and Pin Configuration



SOD123FL



## Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

| PARAMETER                                                                    | SYMBOL                | LIMIT       | UNITS              |
|------------------------------------------------------------------------------|-----------------------|-------------|--------------------|
| Peak Pulse Power Dissipation( $t_p = 10/1000 \text{ us}$ )                   | $P_{PP}^{(1,2)}$      | 400         | W                  |
| Peak Pulse Current on $t_p = 10/1000 \text{ us}$ waveform <sup>(Fig.2)</sup> | $I_{PPM}^{(1)}$       | See table 1 | A                  |
| ESD IEC61000-4-2(Air)                                                        | $V_{ESD}$             | $\pm 30$    | kV                 |
| ESD IEC61000-4-2(Contact)                                                    |                       | $\pm 30$    |                    |
| Typical Thermal Resistance Junction to Ambient                               | $R_{\theta JA}^{(3)}$ | 200         | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range                                         | $T_J$                 | -55~150     | $^\circ\text{C}$   |
| Storage Temperature Range                                                    | $T_{STG}$             | -65~150     | $^\circ\text{C}$   |

### ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

[WWW.TECHPUBLIC.COM](http://WWW.TECHPUBLIC.COM)

| Part Number |              | $V_{RWM}$ | $V_{BR}$ |      |       | $I_R@V_{RWM}$ | $V_C@I_{PP}$ |      |
|-------------|--------------|-----------|----------|------|-------|---------------|--------------|------|
|             |              |           | Min.     | Max. | $I_T$ |               |              |      |
| UNI         | BI           | V         | V        | V    | mA    | $\mu\text{A}$ | V            | A    |
| TP4LSMF6.0A | TP4LSMF6.0CA | 6         | 6.67     | 7.37 | 10    | 50            | 10.3         | 38.8 |
| TP4LSMF6.5A | TP4LSMF6.5CA | 6.5       | 7.22     | 7.98 | 10    | 40            | 11.2         | 35.7 |
| TP4LSMF7.0A | TP4LSMF7.0CA | 7         | 7.78     | 8.6  | 10    | 40            | 12           | 33.3 |
| TP4LSMF7.5A | TP4LSMF7.5CA | 7.5       | 8.33     | 9.21 | 1     | 30            | 12.9         | 31   |
| TP4LSMF8.0A | TP4LSMF8.0CA | 8         | 8.89     | 9.83 | 1     | 5             | 13.6         | 29.4 |
| TP4LSMF8.5A | TP4LSMF8.5CA | 8.5       | 9.44     | 10.4 | 1     | 5             | 14.4         | 27.8 |
| TP4LSMF9.0A | TP4LSMF9.0CA | 9         | 10       | 11.1 | 1     | 0.5           | 15.4         | 26   |
| TP4LSMF10A  | TP4LSMF10CA  | 10        | 11.1     | 12.3 | 1     | 0.5           | 17           | 23.5 |
| TP4LSMF11A  | TP4LSMF11CA  | 11        | 12.2     | 13.5 | 1     | 0.5           | 18.2         | 22   |
| TP4LSMF12A  | TP4LSMF12CA  | 12        | 13.3     | 14.7 | 1     | 0.5           | 19.9         | 20.1 |
| TP4LSMF13A  | TP4LSMF13CA  | 13        | 14.4     | 15.9 | 1     | 0.1           | 21.5         | 18.6 |
| TP4LSMF14A  | TP4LSMF14CA  | 14        | 15.6     | 17.2 | 1     | 0.1           | 23.2         | 17.2 |
| TP4LSMF15A  | TP4LSMF15CA  | 15        | 16.7     | 18.5 | 1     | 0.1           | 24.4         | 16.4 |
| TP4LSMF16A  | TP4LSMF16CA  | 16        | 17.8     | 19.7 | 1     | 0.1           | 26           | 15.4 |
| TP4LSFF17A  | TP4LSFF17CA  | 17        | 18.9     | 20.9 | 1     | 0.1           | 27.6         | 14.5 |
| TP4LSMF18A  | TP4LSMF18CA  | 18        | 20       | 22.1 | 1     | 0.1           | 29.2         | 13.7 |
| TP4LSMF20A  | TP4LSMF20CA  | 20        | 22.2     | 24.5 | 1     | 0.1           | 32.4         | 12.3 |
| TP4LSMF22A  | TP4LSMF22CA  | 22        | 24.4     | 26.9 | 1     | 0.1           | 35.5         | 11.3 |
| TP4LSMF24A  | TP4LSMF24CA  | 24        | 26.7     | 29.5 | 1     | 0.1           | 38.9         | 10.3 |
| TP4LSMF26A  | TP4LSMF26CA  | 26        | 28.9     | 31.9 | 1     | 0.1           | 42.1         | 9.5  |
| TP4LSMF28A  | TP4LSMF28CA  | 28        | 31.1     | 34.4 | 1     | 0.1           | 45.4         | 8.8  |
| TP4LSMF30A  | TP4LSMF30CA  | 30        | 33.3     | 36.8 | 1     | 0.1           | 48.4         | 8.3  |
| TP4LSMF33A  | TP4LSMF33CA  | 33        | 36.7     | 40.6 | 1     | 0.1           | 53.3         | 7.5  |
| TP4LSMF36A  | TP4LSMF36CA  | 36        | 40       | 44.2 | 1     | 0.1           | 58.1         | 6.9  |
| TP4LSMF40A  | TP4LSMF40CA  | 40        | 44.4     | 49.1 | 1     | 0.1           | 64.5         | 6.2  |
| TP4LSMF43A  | TP4LSMF43CA  | 43        | 47.8     | 52.8 | 1     | 0.1           | 69.4         | 5.8  |
| TP4LSMF45A  | TP4LSMF45CA  | 45        | 50       | 55.3 | 1     | 0.1           | 72.2         | 5.5  |
| TP4LSMF48A  | TP4LSMF48CA  | 48        | 53.3     | 58.9 | 1     | 0.1           | 77.4         | 5.2  |
| TP4LSMF51A  | TP4LSMF51CA  | 51        | 56.7     | 62.7 | 1     | 0.1           | 82.4         | 4.9  |
| TP4LSMF54A  | TP4LSMF54CA  | 54        | 60       | 66.3 | 1     | 0.1           | 87.1         | 4.6  |
| TP4LSMF58A  | TP4LSMF58CA  | 58        | 64.4     | 71.2 | 1     | 0.1           | 93.6         | 4.3  |
| TP4LSMF60A  | TP4LSMF60CA  | 60        | 66.7     | 73.7 | 1     | 0.1           | 96.8         | 4.1  |
| TP4LSMF64A  | TP4LSMF64CA  | 64        | 71.1     | 78.6 | 1     | 0.1           | 103          | 3.9  |
| TP4LSMF70A  | TP4LSMF70CA  | 70        | 77.8     | 86.0 | 1     | 0.1           | 96.8         | 4.1  |
| TP4LSMF75A  | TP4LSMF75CA  | 75        | 83.3     | 78.6 | 1     | 0.1           | 103          | 3.9  |

**RATINGS AND V-I CHARACTERISTICS CURVES** ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating Curve

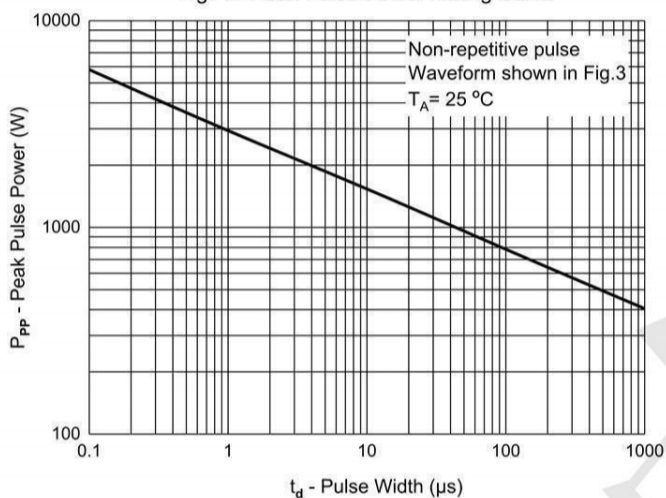


Fig. 2 - Typical Junction Capacitance

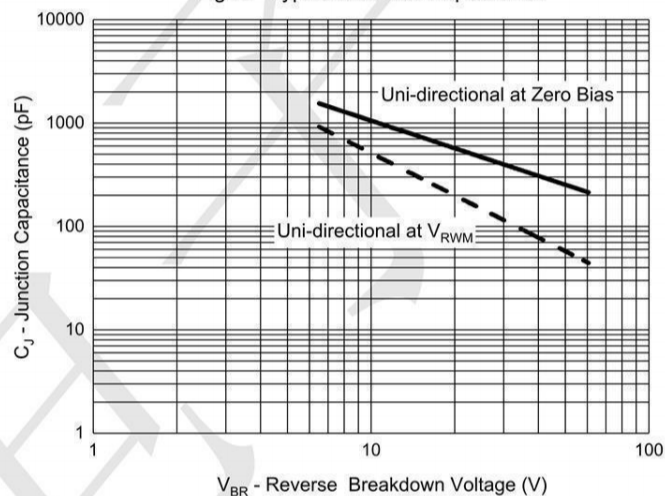


Fig. 3 - Pulse Waveform

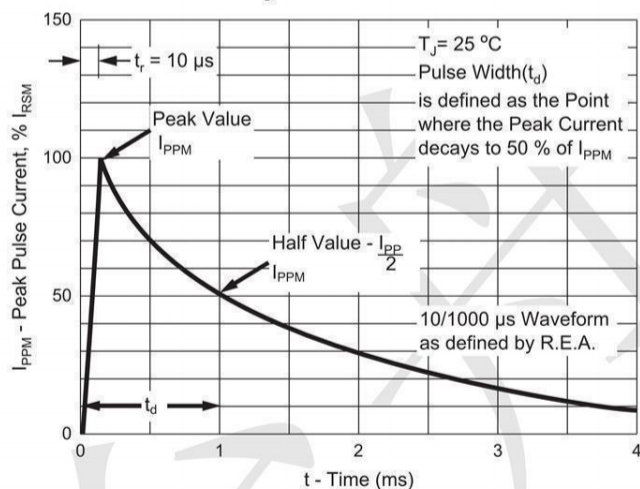
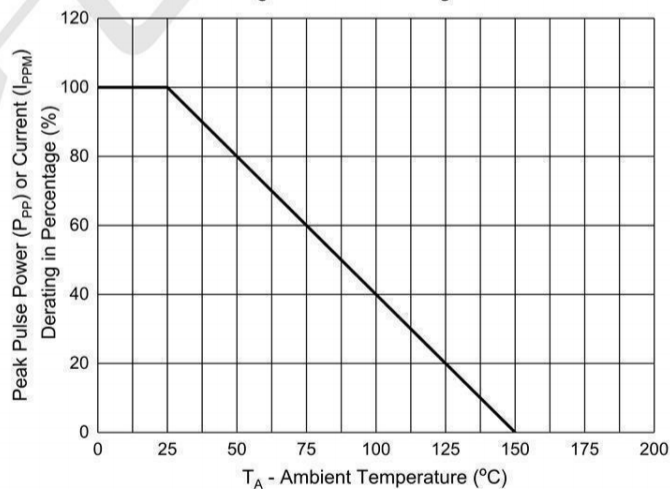
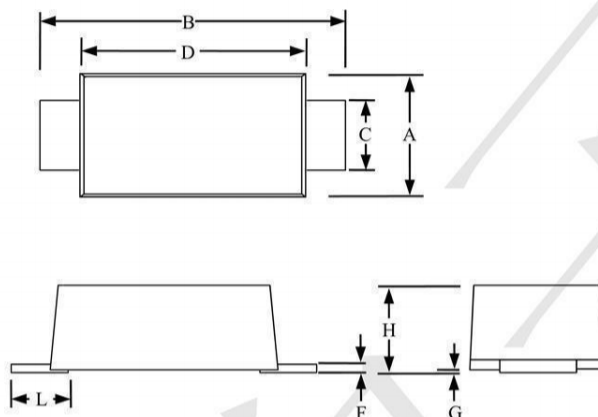


Fig. 4 - Pulse Derating Curve



**Package Outline Dimensions: SOD-123FL**



| SOD-123FL |        |     |       |             |     |      |
|-----------|--------|-----|-------|-------------|-----|------|
| Dimension | Inches |     |       | Millimeters |     |      |
|           | MIN    | NOM | MAX   | MIN         | NOM | MAX  |
| A         | 0.059  |     | 0.079 | 1.5         |     | 2    |
| B         | 0.134  |     | 0.154 | 3.4         |     | 3.9  |
| C         | 0.028  |     | 0.047 | 0.7         |     | 1.2  |
| D         | 0.098  |     | 0.114 | 2.5         |     | 2.9  |
| F         | 0.002  |     | 0.01  | 0.05        |     | 0.26 |
| G         | -      |     | 0.004 | -           |     | 0.1  |
| H         | 0.037  |     | 0.053 | 0.95        |     | 1.35 |
| L         | 0.014  |     | 0.035 | 0.35        |     | 0.9  |